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A review of the scopelocheirid amphipods (Crustacea, Amphipoda, Lysianassoidea), with the description of new taxa from Australian waters

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Key Words

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Austrocallisoma
Tayabasa
Australia.

Abstract

Scopelocheiridae is a small family of scavenging lysianassoid amphipods. There is a distinct shallow water group (Scopelocheirinae **subfam. n.**) and a distinct deep-sea group (Paracallisominae **subfam. n.**). We catalogue three genera and eight species in the scopelocheirines and move *Scopelocheirus onagawae* Takekawa & Ishimaru, 2000 to the genus *Aroui*. The deep-sea paracallisomines are not often collected and consequently their morphological diversity is not well understood. We catalogue seven genera and 15 species. We provide diagnostic descriptions and a key to all genera in the Scopelocheiridae. We describe two new genera, *Austrocallisoma* **gen. n.** and *Tayabasa* **gen. n.**, and three new species from Australian waters, *Austrocallisoma jerryi* **sp. n.**, *Paracallisoma woolgoolga* **sp. n.** and *P. zivianii* **sp. n.**

Introduction

Scopelocheiridae Lowry & Stoddart, 1997 is a small family of scavenging lysianassoid amphipods which contains two subfamilies, Scopelocheirinae subfam. n. and Paracallisominae subfam. n. The scopelocheirines contain three genera and eight species living in temperate and boreal, mainly shallow, waters of the Mediterranean Sea, the North and South Atlantic, Japan and Australia. They are scavengers feeding on carrion on the sea bottom, with some species reported feeding in the dead tests of spatangoid urchins (Chevreux 1911, Lowry and Stoddart 1989). Paracallisomines are a larger group (seven genera and 15 species) widespread in the deep-sea of the North and South Pacific, North and South Atlantic, Southern Ocean and Indian Ocean. Paracallisomines are not often collected and consequently their morphological diversity is not well understood. This has made their generic composition difficult to determine. In this paper we describe two new genera, *Austrocallisoma* for *A. jerryi* sp. n., and *Tayabasa* gen. n. for *Eucallisoma barnardi* Lowry & Stoddart, 1983, and provide a key to the world genera. We also describe two new species in the genus *Paracallisoma*, *P. woolgoolga* sp. n., and *P. zivianii* sp. n. (see Suppl. material 1 for specimen data on material examined). All species records from the literature, where found, are catalogued and their distributions and depth ranges noted (see also Suppl. material 2).

Material and methods

The descriptions were generated from a DELTA database (Dallwitz 2010) to the scopelocheirid genera and species of the world. In the diagnostic descriptions, diagnostic characters that distinguish each taxon from all others are denoted in *italic* type. Maxilla 1 setal-tooth arrangements follow the formulae outlined in Lowry and Stoddart (1992, 1995). In describing the telson we define the cleftness as deeply cleft (more than 66%), moderately cleft (33% to 66%), or weakly cleft (less than 33%). We use the term labrum to refer to the epistome and upper lip complex. Material is lodged in the Australian Museum, Sydney (AM); Graduate School of Agricultural Science, Tohoku University (AMTU); Natural History Museum, London (NHM); Muséum National d'Histoire Naturelle, Paris (MNHN); Musée Oceanographique Monaco (MOM); Museo Civico di Storia Naturale, Verona (MSNV); Zoological Museum of Moscow University, Moscow (ZMM); United States National Museum of Natural History, Smithsonian Institution, Washington DC (USNM); Museum für Naturkunde, Berlin (ZMB); Zoological Institute, Russian Academy of Sciences, St. Petersburg (ZIN); Zoological Museum, Hamburg (ZMH). Standard abbreviations used in the figures are: A, antenna; C, coxa; EP, epimeron; G, gnathopod; H, head; IP, inner plate; LM, labrum; MD, mandible; MX, maxilla; MP, maxilliped; OP, outer late; P, pereopod; T, telson; U, uropod; l, left; r, right.

Checklist of the family Scopelocheiridae Lowry & Stoddart, 1997

Scopelocheirinae subfam. n.
Aroui americana Lowry & Stoddart, 1997
Aroui hamatopodus Lowry & Stoddart, 1989
Aroui onagawae (Takekawa & Ishimaru, 2000)
Aroui setosus Chevreux, 1911
Paracallisomopsis beljaevi Gurjanova, 1962
Scopelocheirus crenatus Bate, 1857
Scopelocheirus hopei (Costa, 1851)
Scopelocheirus polymedus Bellan-Santini, 1985

Paracallisominae subfam. n.
Anisocallisoma armigera Hendrycks & Conlan, 2003
Austrocallisoma jerryi gen. n., sp. n.
Bathycallisoma schellenbergi (Birstein & M. Vinogradov, 1958)
Eucallisoma glandulosa J.L. Barnard, 1961
Paracallisoma abyssi (Oldevig, 1959)
Paracallisoma alberti Chevreux, 1903
Paracallisoma coecum (Holmes, 1908)
Paracallisoma platepistomum Andres, 1977
Paracallisoma spinipoda Hendrycks & Conlan, 2003
Paracallisoma woolgoolga sp. n.
Paracallisoma zivianii sp. n.
Scopelocheiropsis abyssalis Schellenberg, 1926
Scopelocheiropsis armata (Ledoyer, 1986)
Scopelocheiropsis sublitoralis G. Vinogradov, 2004
Tayabasa barnardi (Lowry & Stoddart, 1993)

Systematics

Family Scopelocheiridae Lowry & Stoddart, 1997

Scopelocheiridae Lowry & Stoddart, 1997: 122.

Diagnosis. (Modified after Lowry and Stoddart 1997). Head as long as deep, or deeper than long. Labrum, epistome and upper lip separate. Mandible incisors usually symmetrical, sometimes asymmetrical, large with straight or convex margins; left lacinia mobilis a stemmed distally expanded smooth or irregularly cusped blade, a long slender robust seta, or occasionally a cuspidate peg (*Paracallisomopsis*); accessory setal row without distal setal tuft; molar present or absent (*Scopelocheiropsis sublittoralis*), a narrow column with a small triturating surface, or a small non-setose triangular flap when present. Maxilla 1 inner plate usually strongly setose, with more than 2 pappose setae (except *Anisocallisoma*); outer plate broad, with 6–11 setal-teeth in a 7/4 arrangement; palp large, 1- or 2-articulate. Maxilliped outer plate with or without apical slender simple or pappose setae, with or without apical robust setae. Gnathopod 1 simple, dactylus reduced, complex, setose. Pereopods 3–7 usually simple, sometimes prehensile. Telson moderately to deeply cleft.

Key to Scopelocheirid genera

1	Maxilla 2 outer plate with extremely long distally-barbed slender setae	*Aroui*
–	Maxilla 2 outer plate without long slender distally-barbed setae	2
2	Pereopod 4 coxa with large subquadrate posteroventral lobe	3
–	Pereopod 4 coxa with subacutely produced posteroventral lobe	5
3	Gnathopod 1 basis swollen, glandular	*Eucallisoma*
–	Gnathopod 1 basis slender, non-glandular	4
4	Gnathopod 1 coxa adze-shaped; peropod 5 basis wider than long	*Scopelocheirus*
–	Gnathopod 1 coxa subrectangular; pereopd 5 basis longer than wide	*Paracallisomopsis*
5	Pereopods 3 and 4 carpus distinctly longer than wide	6
–	Pereopods 3 and 4 carpus as wide as long or wider than long	9
6	Pereopod 4 coxa posteroventral lobe weakly developed posteriorly	*Anisocallisoma*
–	Pereopod 4 coxa posteroventral lobe well developed posteriorly	7

7 Maxilliped palp article 4 well developed. Gnathopod 1 dactylus anterior margin with rows of long slender setae ... *Paracallisoma*
– Maxilliped palp article 4 vestigial. Gnathopod 1 dactylus anterior margin without setae 8
8 Mandible lacinia mobilis a stemmed, distally expanded blade. Gnathopod 1 coxa reduced ..... *Austrocallisoma*
– Mandible lacinia mobilis a cuspidate peg. Gnathopod 1 coxa well-developed, almost as large as coxa 2 ..... *Tayabasa*
9 Mandible lacinia mobilis a long slender robust seta ..... *Bathycallisoma*
– Mandible lacinia mobilis a distally expanded smooth blade..... *Scopelocheiropsis*

Subfamily Scopelocheirinae subfam. n.

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Included genera. The Scopelocheirinae includes three genera: *Aroui* Chevreux, 1911; *Paracallisomopsis* Gurjanova, 1962; *Scopelocheirus* Bate, 1857.

Diagnosis. Mandible molar a narrow column.

Aroui Chevreux, 1911

Aroui Chevreux, 1911: 169. — J.L. Barnard 1969: 328. — Barnard and Karaman 1991: 434 (key), 467. — Lowry and Stoddart 1989: 112. — Lowry and Stoddart 2003: 249.

Type species. *Aroui setosus* Chevreux, 1911, by monotypy.

Included species. *Aroui* includes four species: *A. americana* Lowry & Stoddart, 1997; *A. hamatopodus* Lowry & Stoddart, 1989; *A. onagawae* (Takekawa & Ishimaru, 2000), comb. n.; *A. setosus* Chevreux, 1911.

Diagnostic description. Mandible lacinia mobilis a stemmed, distally expanded, irregularly cusped blade; palp article 2 broadened. *Maxilla 2* inner plate longer than outer plate; *outer plate with extremely long distally barbed slender setae*. *Gnathopod 1 coxa margins diverging distally*. Pereopod 5 coxa slightly wider than long; basis greatly expanded posteriorly.

Distribution. Western Atlantic. Mediterranean Sea. Japan. Australia.

Ecology. Found in shallow warm seas. A scavenger, also found in dead spatangoid tests.

Discussion. Previously, the setal fringe on the distal margins of the coxae from gnathopod 1 to pereopod 4 was considered to be a diagnostic character of the genus *Aroui*. Here we exclude that character from the diagnosis of the genus, as the setal fringe is absent in *A. onagawae* (Takekawa & Ishimaru, 2000), comb. n. Instead, we consider the unusual long, distally barbed setae on the outer plate of maxilla 2 to be an autapomorphy that distinguishes *Aroui* from all other genera in the Scopelocheiridae. See *A. onagawae*, below, for further discussion.

Aroui americana Lowry & Stoddart, 1997

Figure 1

Aroui americana Lowry & Stoddart, 1997: 124, figs 60–62.

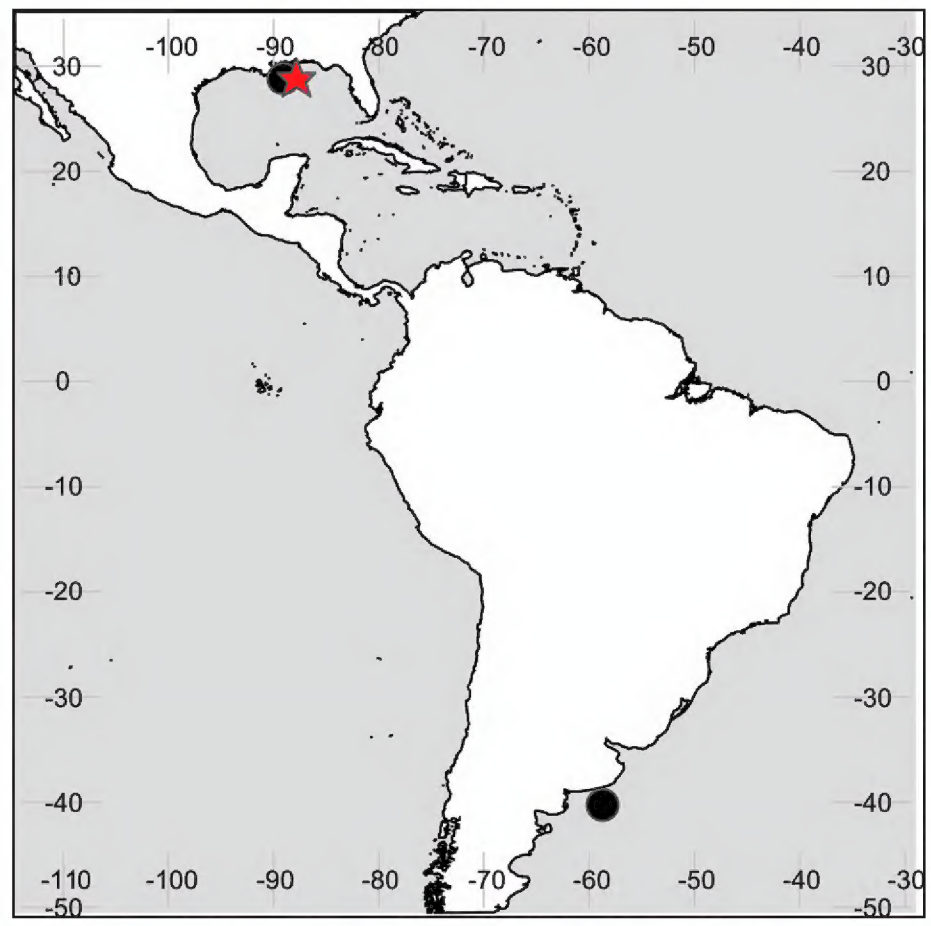

Figure 1. Distribution of *Aroui americana* Lowry & Stoddart, 1997. Star indicates type locality.

— Escobar-Briones and Winfield 2003: 42. — Ortíz et al. 2007: 513. — Martín et al. 2013: 1715 (appendix 1).

Type material. Holotype, female, 5 mm (with oostegite buds), USNM 282716. Paratypes: 1 male, 5.4 mm, USNM 282717; 1 male AM P.45339.

Type locality. Gulf of Mexico, south of Mobile Bay (approximately 29°12'N, 85°07'W), from stomach of a Blackfin grenadier, *Coelorinchus caribbaeus* (Goode & Bean, 1885), 200 m depth.

Depth range. 95–200 m (Lowry and Stoddart 1997). The deeper record represents animals taken from fish stomachs.

Distribution. *Argentina*: east of Bahía Unión (Lowry and Stoddart 1997). *United States*: Gulf of Mexico, south of Mobile Bay and south-east of the Mississippi River Delta (Lowry and Stoddart 1997).

Ecology. Known from sandy bottoms, but also a scavenger by implication (Lowry and Stoddart 1997).

Discussion. This species was described from three specimens: two from fish stomachs in the Gulf of Mexico and in the collections of the USNM, and another specimen taken in a trawl off Argentina by the USS *Albatross* in the collections of the AM. No new material has been recorded in the literature since its description.

Aroui hamatopodus Lowry & Stoddart, 1989

Figure 2

Aroui hamatopodus Lowry & Stoddart, 1989: 114, figs 2–4. — Springthorpe and Lowry 1994: 18. — Lowry and Stoddart 2003: 249. — Berge et al. 2004: 1719 (table 1).

Type material. Holotype, male, 7.8 mm, AM P.38460. Paratypes: female, 8.0 mm (with oostegites), AM P.38461; 9 specimens, AM P.38462.

Additional Australian material examined. *New South Wales:* 9 specimens, AM P.43490 [NSW-945]; 1 specimen, AM P.44276 [NSW-946]; 1825 specimens, AM P.44256 [NSW-944], off Wollongong (34°31.48'S, 151°13.22'E), 200 m, baited trap, 27–28 March 1994, J.K. Lowry & K. Dempsey, MV *Robin E*; 8 specimens, AM P.44238, off Wollongong (34°31.48'S, 151°13.22'E), 200 m, baited trap, 28–29 March 1994, J.K. Lowry & K. Dempsey, MV *Robin E* [NSW-962]; 1 specimen, AM P.44452, off Wollongong (34°32.25'S, 151°15.16'E), 300 m, baited trap, 6–7 May 1993, P. Freewater, S.J. Keable & W. Vader, MV *Robin E* [NSW-783]; 23 specimens, AM P.44426 [NSW-801]; 2 specimens, AM P.44437 [NSW-802], off Wollongong (34°32.53'S, 151°15.0'E), 300 m, baited trap, 7–8 May 1993, P. Freewater, S.J. Keable & W. Vader, MV *Robin E*; 4 specimens, AM P.47032, off Wollongong (34°32.08'S, 151°12.55'E), 200 m, baited trap, 7–8 May 1993, P. Freewater, S.J. Keable & W. Vader, MV *Robin E* [NSW-797].

Type locality. Australia, New South Wales, from stomach of a jackass morwong (tarakihi), *Nemadactylus macropterus* (Forster, 1801), 73–183 m depth.

Depth range. 73–620 m (Lowry and Stoddart 1989).

Distribution. *Australia*: North-east of Rowley Shoals, Western Australia; Lady Elliot Island, Queensland, to off Wollongong, New South Wales (Lowry and Stoddart 1989, this study).

Ecology. Taken in baited traps (this study). Also recorded feeding on dead spatangoids, *Taimanawa mortenseni* Henderson & Fell, 1969 (Lowry and Stoddart 1989).

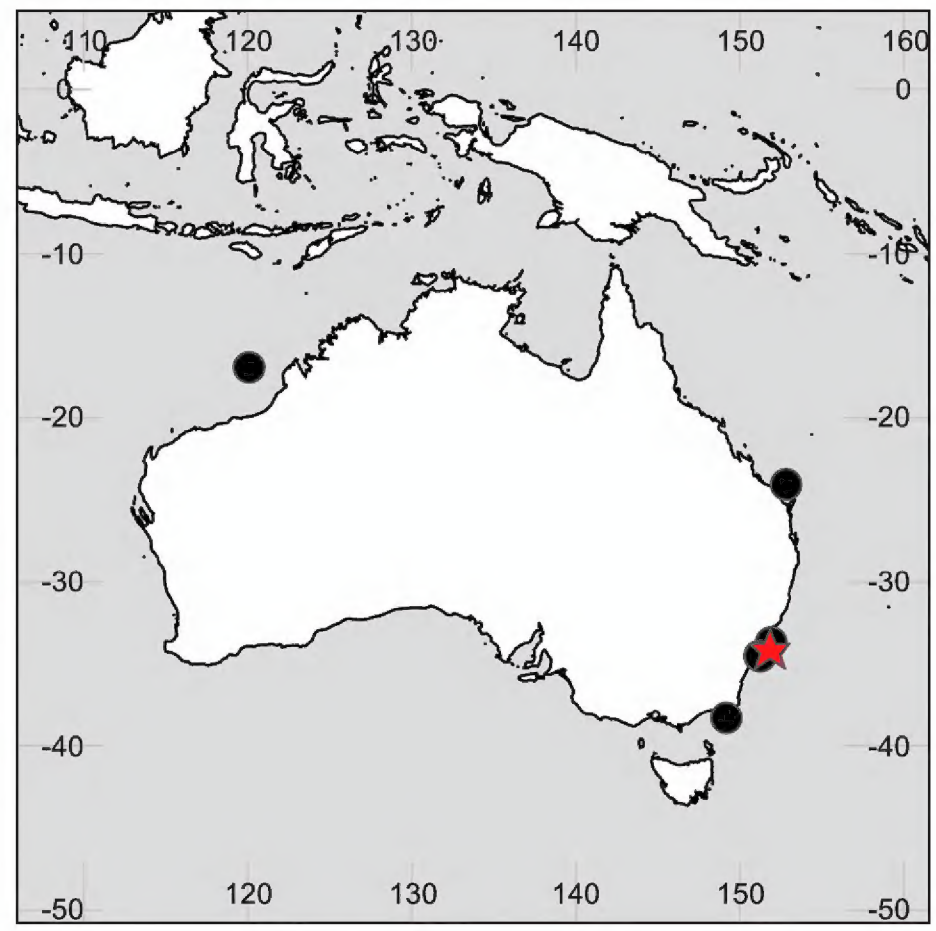

Figure 2. Distribution of *Aroui hamatopodus* Lowry & Stoddart, 1989. Star indicates type locality.

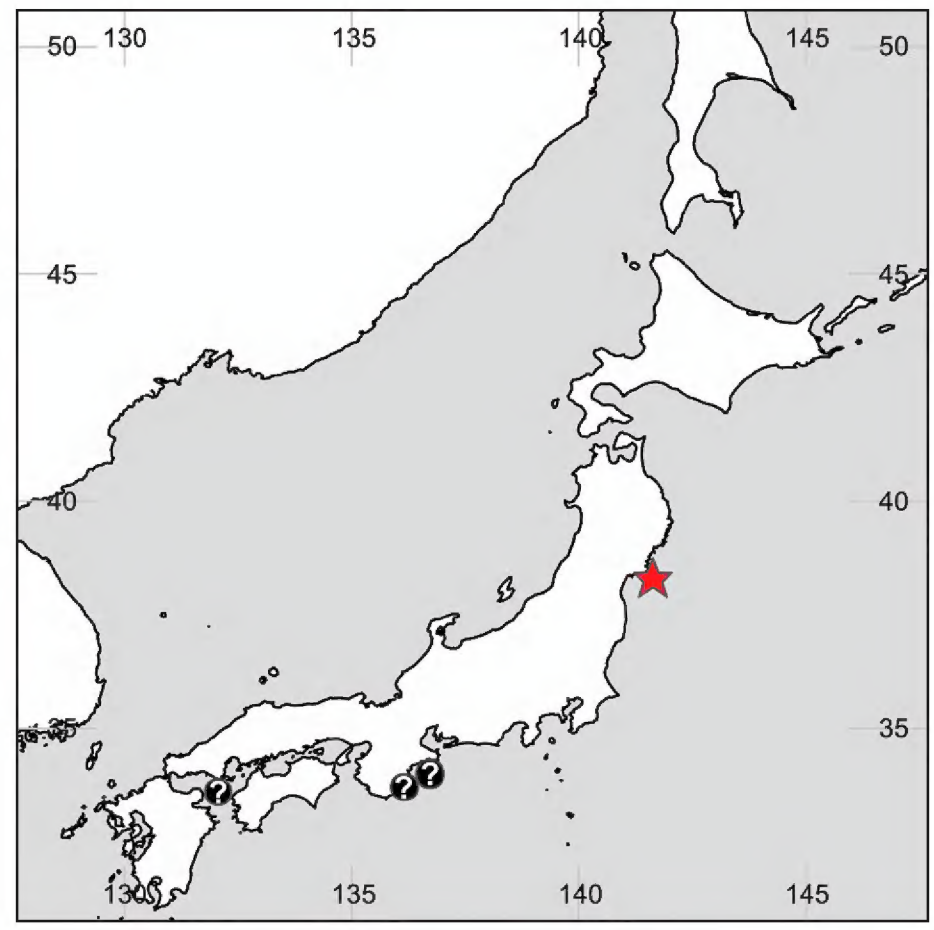

Figure 3. Distribution of *Aroui onagawae* (Takekawa & Ishimaru, 2000). Star indicates type locality, question marks indicates uncertain records.

Aroui onagawae (Takekawa & Ishimaru, 2000), comb. n.

Figure 3

Scopelocheirus onagawae Takekawa & Ishimaru, 2000: 681, figs 1–6. — Takekawa et al. 2004: 971. — Ide et al. 2005: 725. — Ide et al. 2006a: 194. — Ide et al. 2006b: 1209. — Ide et al. 2007: 71.

? *Scopelocheirus hopei*. — Nagata 1965: 148. — Sekiguchi and Yamaguchi 1983: 10, fig. 6.

Type material. Holotype, male, 10.4 mm, AMTU 110. Paratypes: males, AMTU 101, 102, 104, 105; females AMTU 106, 108, 109; juveniles AMTU 103, 107.

Type locality. Japan, Miyagi Prefecture, Onagawa Bay (38°25.75'N, 141°32'E), 30 m depth.

Depth range. 30 m (Takekawa and Ishimaru 2000). Possible extension to 519 m (Sekiguchi and Yamaguchi 1983).

Distribution. *Japan*: Onagawa Bay (Takekawa and Ishimaru 2000); Seto Inland Sea? (Nagata 1965) (as *Scopelocheirus hopei*); Enshu- and Kumano-nada? (Sekiguchi and Yamaguchi 1983) (as *Scopelocheirus hopei*).

Ecology. A scavenger, taken in baited traps (Ide et al. 2005), and also known to attack injured flounder juveniles under laboratory conditions (Ide et al. 2006b).

Discussion. Takekawa and Ishimaru (2000) originally placed this species in the genus *Scopelocheirus*, based on the lack of a setal fringe on the coxae of the anterior pereopods. In the present study we have revised the diagnoses for these genera and excluded this character from the diagnosis of *Aroui*. We are therefore removing this species from the genus *Scopelocheirus* to *Aroui* based on maxilla 2, of which the outer plate is shorter than the inner plate and bears long, distally barbed slender setae.

Aroui setosus Chevreux, 1911

Figures 4, 5

Aroui setosus Chevreux, 1911: 170, fig. 3, pl. 7, figs 14–27. — J.L. Barnard 1958: 90 (list). — Belloc 1960: 6. — Thurston and Allen 1969: 356. — Stroobants 1976: 239, figs 1–4, 5B, D, F, H. — Vader 1978: 127. — Diviacco and Ruffo 1989: 476, figs 321, 322. — Lowry and Stoddart 1989: 112, fig. 1. — Barnard and Karaman 1991: 467. — Springthorpe and Lowry 1994: 31. — Stefanidou and Voultsiadou-Koukoura 1995: 602 (table 1), 607. — Bellan-Santini 1998: 874 (table 3). — Bellan-Santini and Ruffo 1998: 900 (table 7). — Berge et al. 2004: 1719 (table 1). — Christodoulou et al. 2013: table 2.

Type material. Lectotype, female, 8 mm, MNHN-Am3985. Paralectotypes: female, 7.6 mm, male, 5.8 mm, AM P.35541; 3 specimens, NHM 1912:4:4:5–7; 93 specimens, MNHN-Am900 and Am901; 3 specimens, MOM.

Type locality. Mediterranean Sea, Algeria, north-east of Cap de Garde (approximately 36°55'N, 7°47'E), 65 m depth, 12 June 1904, *Melita* stn 726.

Depth range. 34–80 m (Stroobants 1976, Stefanidou and Voultsiadou-Koukoura 1995).

Distribution. *Algeria*: off Annaba (Chevreux 1911). *Greece*: near Thasos (Stefanidou and Voultsiadou-Koukoura 1995). *Italy*: Cagliari; and between Capo Ferato and Torre Corallo, Sardinia (Stroobants 1976).

Ecology. Found living on the test of sea urchins (*Spatangus* spp.) (Chevreux 1911, Stroobants 1976). Also collected from the sponge *Suberites* covering a gastropod shell that housed a hermit crab, *Paguristes* sp. (Stroobants 1976).

Discussion. Stroobants (1976) designated a neotype for *Aroui setosus* from material collected from Sardinia. Lowry and Stoddart (1989) subsequently deemed this to be an invalid act, as original syntype material was available, from which these authors selected a lectotype. See Lowry and Stoddart (1989) for a comprehensive synopsis and further discussion.

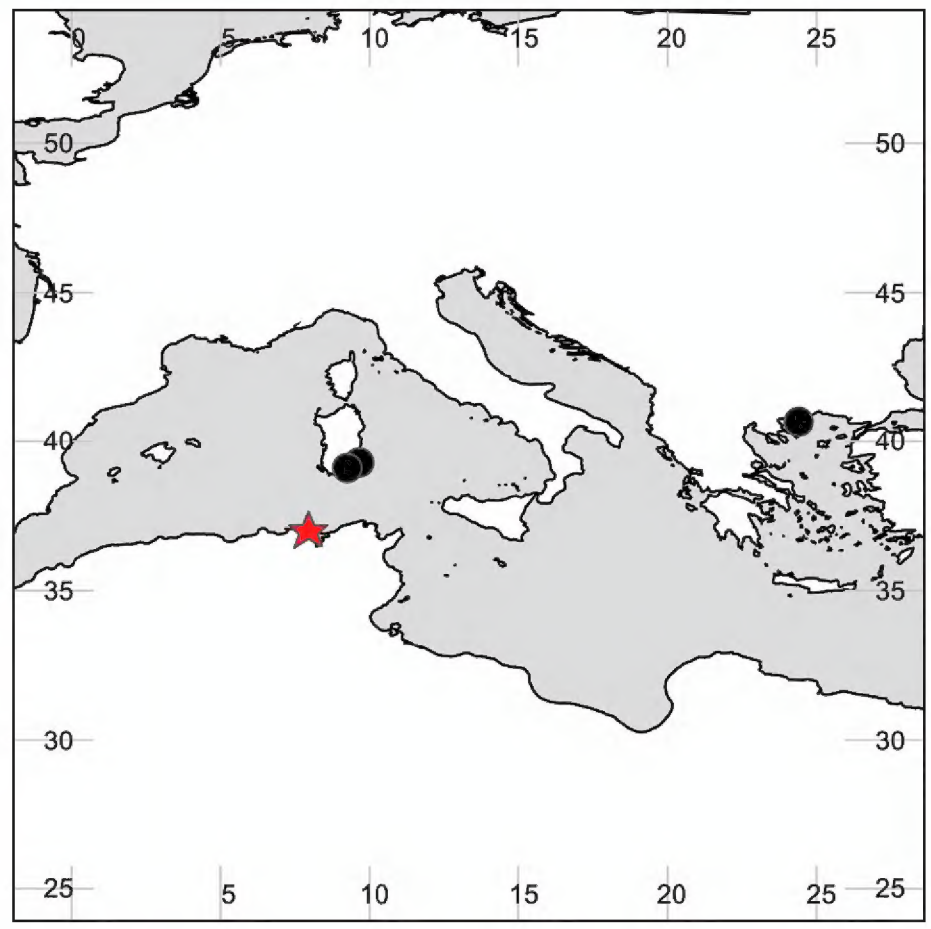

Figure 4. Distribution of *Aroui setosus* Chevreux, 1911. Star indicates type locality.

Paracallisomopsis Gurjanova, 1962

Paracallisomopsis. Gurjanova 1962: 311. — J.L. Barnard 1969: 355. — Barnard and Karaman 1991: 511, fig. 92j.

Type species. *Paracallisomopsis beljaevi* Gurjanova, 1962, by monotypy.

Included species. *Paracallisomopsis* includes one species: *P. beljaevi* Gurjanova, 1962.

Diagnostic description. *Mandible lacinia mobilis a cuspidate peg*; palp article 2 slender. Maxilla 2 inner plate subequal in length to outer plate; outer plate without long distally barbed slender setae. *Gnathopod 1 coxa margins slightly tapering distally. Pereopod 5 coxa slightly wider than long; basis linear.*

Paracallisomopsis beljaevi Gurjanova, 1962

Figures 6, 7

Paracallisomopsis beljaevi Gurjanova, 1962: 317, fig. 103a–c. — Stroobants 1976: 263, table 3. — Barnard and Karaman 1991: 511, fig. 92j. — Springthorpe and Lowry 1994: 10.

Type material. Syntypes: 1 specimen, sex unknown, 5.5 mm, AM P.35701; 10 specimens, ZIN I-34963.

Type locality. Bering Sea, Russia, Kamchatka, Olyutorsky Bay, 150 m [approximately 60°13'N, 168°23'E].

Depth range. 150 m (Gurjanova 1962).

Distribution. Known only from the type locality, Olyutorsky Bay in the Bering Sea (Gurjanova 1962).

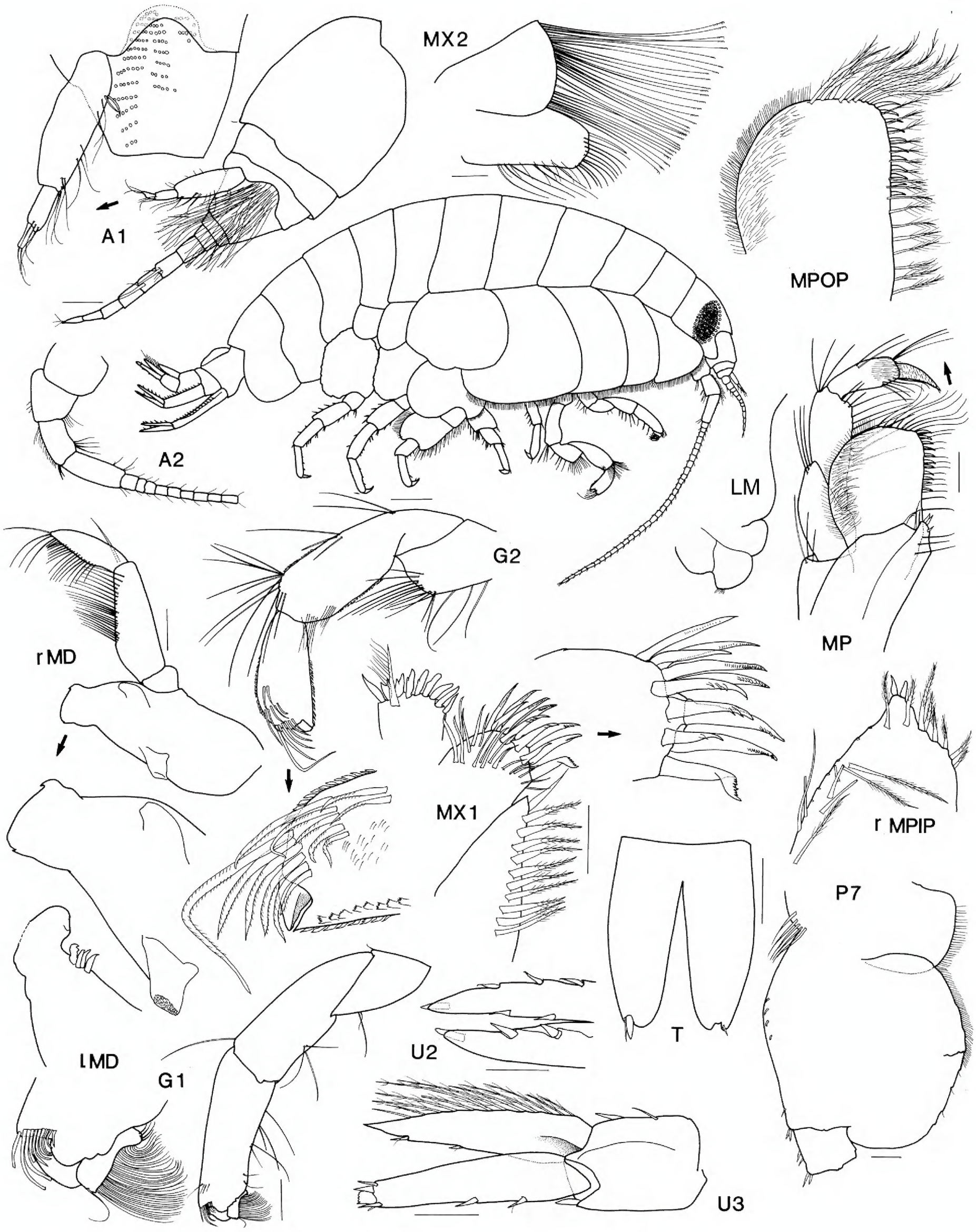

Figure 5. *Aroui setosus* Chevreux, 1911. Lectotype female, 8.0 mm, MNHN-Am3985, off Bône, Mediterranean Sea. Scales represent 0.1 mm.

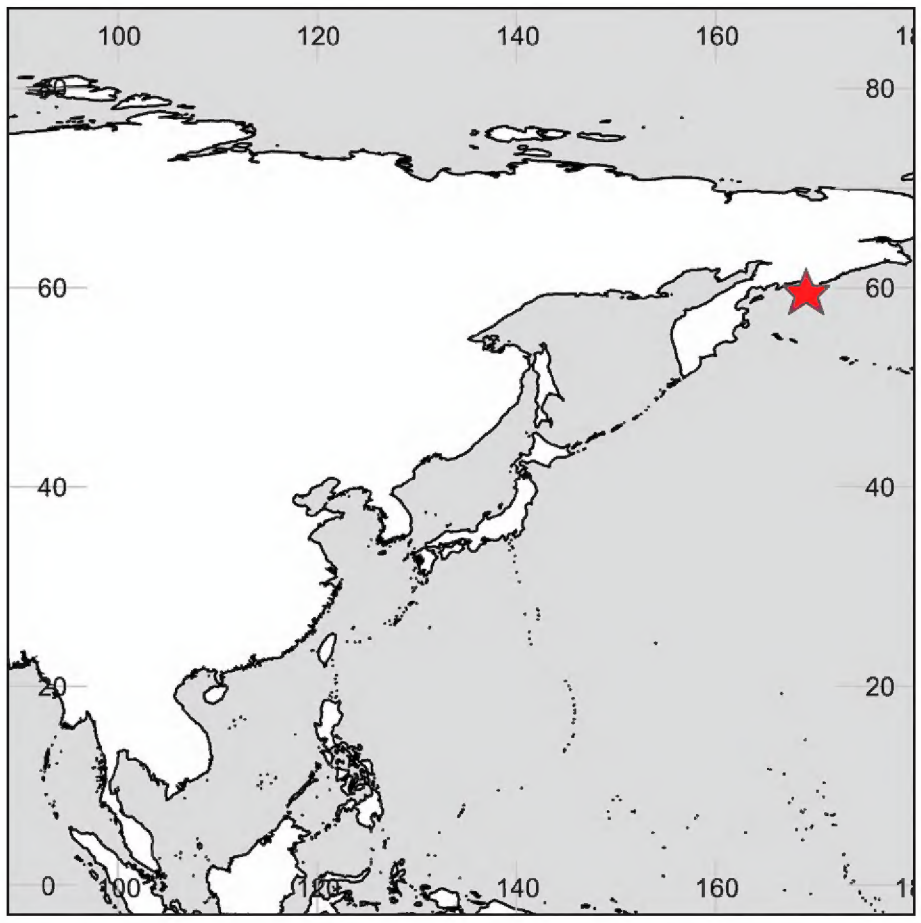

Figure 6. Distribution of *Paracallisomopsis beljaevi* Gurjanova, 1962.

Discussion. Stroobants (1976) considered the possibility that the specimen described by Gurjanova (1962) is a juvenile of *Paracallisoma alberti*. We consider it to be a valid species and placed in the subfamily Scopelocheirinae based on the columnar molar. We examined the syntype in the Australian Museum, but were unable to determine whether the molar has a triturating surface.

Scopelocheirus Bate, 1857

Callisoma O.G. Costa, 1840: 5 (*nomen nudum*). — A. Costa 1851: 1 (homonym, Coleoptera). — Lilljeborg 1865a: 33. — Lilljeborg 1865b: 23. — Heller 1866: 26. — Boeck 1871: 101. — Boeck 1872: 131. — G.O. Sars 1890: 52. — Della Valle 1893: 838.

Scopelocheirus Bate, 1857: 138. — Stebbing 1906: 61. — Chevreux and Fage 1925: 54. — Stephensen 1929: 64. — Schellenberg 1942: 110. — Gurjanova 1951: 241. — J.L. Barnard 1969: 362. — Lincoln 1979: 50. — Diviacco and Ruffo 1989: 542. — Barnard and Karaman 1991: 528, 434 (key), 454 (key).

Type species. *Scopelocheirus crenatus* Bate, 1857 by monotypy.

Included species. *Scopelocheirus* includes three species: *S. crenatus* Bate, 1857; *S. hopei* A. Costa, 1851; *S. polymedus* Bellan-Santini, 1985.

Diagnosis. Mandible lacinia mobilis a stemmed, distally expanded, irregularly cusped blade; palp article 2 broadened. *Maxilla 2* inner plate slightly longer than outer; *outer plate without long distally barbed slender setae*. Gnathopod 1 coxa margins diverging distally. Pereopod 5 slightly wider than long; basis greatly expanded posteriorly.

Ecology. *Scopelocheirus* species are frequently taken in baited traps. They are also reported in the literature as an associate of echinoids.

Discussion. The taxonomic and nomenclatural history of the genus *Scopelocheirus* is highly complex. Della Valle (1893) placed all of the then described species of *Scopelocheirus* (*Callisoma Barthelemyi* Costa, 1853; *Scopelocheirus breviatus* Bate, 1856; *Scopelocheirus crenatus* Bate, 1857; *Anonyx Kröyeri* Bruzelius 1859; *Callisoma Branickii* Wrzesniowski, 1874; and *Tryphosa serra* Meinert 1890) in the synonymy of *Scopelocheirus hopei* (as *Callisoma hopei*). Since then, *S. crenatus* and *S. hopei* have variously been treated as synonyms by some authors, e.g. Lincoln (1979), and as distinct species by others, e.g. Diviacco and Ruffo (1989). As these names have been recorded many times in the literature and appear commonplace in the north-east Atlantic and Mediterranean, the result is a confused synonymy and a distributional record that is beyond the scope of the present study to untangle. In the following catalogue we treat these names separately, and detail what is recorded in the literature without making any assumption on the validity of the taxon concepts in most cases, which would require a much more detailed study of material.

Barnard and Karaman (1991) considered *Bathycallisoma* to be a junior synonym of *Scopelocheirus*, however our re-diagnosis of *Scopelocheirus* excludes *Bathycallisoma* from the Scopelocheirinae on the basis of its flap-like molar. We consider it to be a valid genus, placed in the Paracallisominae.

Scopelocheirus crenatus Bate, 1857

Figures 8, 9

Scopelocheirus breviatus Bate, 1856: 58 (*nomen nudum*)

Scopelocheirus crenatus Bate, 1857: 138. — Stebbing 1906: 62. — Stephensen 1923a: 96. — Stephensen 1923b: 16. — Stephensen 1932: 355. — Chevreux 1935: 41, pl. 7, fig. 3. — Stephensen 1935: 77. — Raitt 1937: 249. — Stephensen 1940: 12. — Stephensen 1942: 472 (table). — Jones 1948: 404, 421. — Enequist 1949: 387 (table). — Jones 1951: 138, 143 (appendix). — Gurjanova 1951: 241 (key), 242 (fig. 107). — J.L. Barnard 1958: 99 (list). — Thurston and Allen 1969: 367. — Laverack and Blackler 1974: 81. — Mattson 1981: 115 (table 1). — Palerud and Vader 1991: 43.

Callisoma crenata. — Bate 1862: 85, pl. 14, fig. 5. — Bate and Westwood 1863: 120, text fig. — Norman 1869: 276. — Boeck 1871: 101. — Boeck 1872: 132, pl. 7, fig. 1. — M'Intosh 1874: 266. — Haddon 1886: 636. — Chevreux 1888: 4. — Robertson 1888: 23. — Pocock 1889: 431. — G.O. Sars 1890: 53, pl. 19, fig. 1. — Meinert 1890: 151. — Walker 1892: 137. — Walker 1895: 291. — Walker 1896: 45. — Scott 1898: 176. — Scott 1900: 180. — Nordgaard 1905: 183. — Nordgaard 1911: 21. — Chumley 1918: [page unknown].

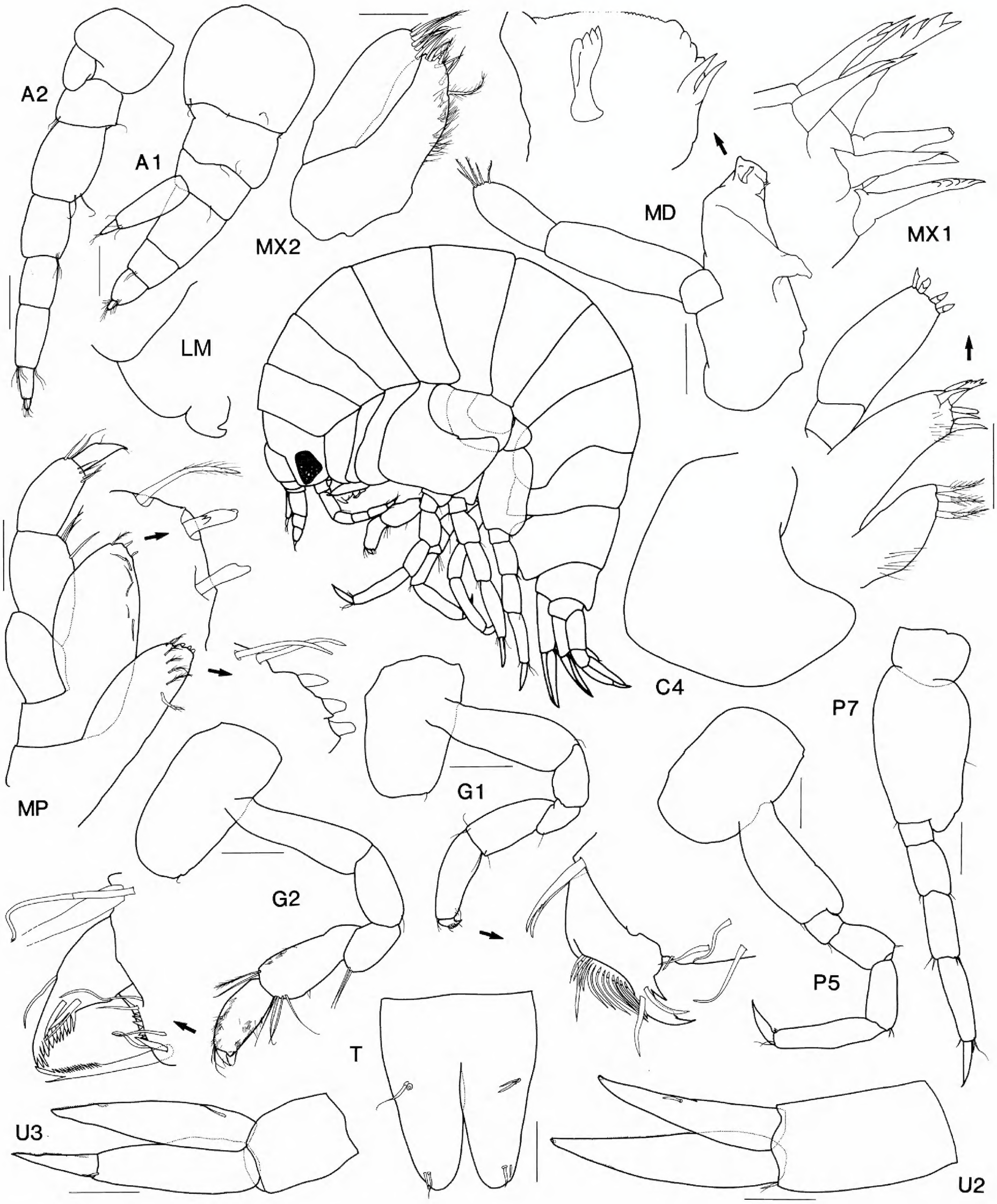

Figure 7. *Paracallisomopsis beljaevi* Gurjanova. Syntype, sex not known, 5.5 mm, AM P.35701, Barents Sea. Scales for gnathopods, pereopods represent 0.2 mm; remainder represents 0.1 mm.

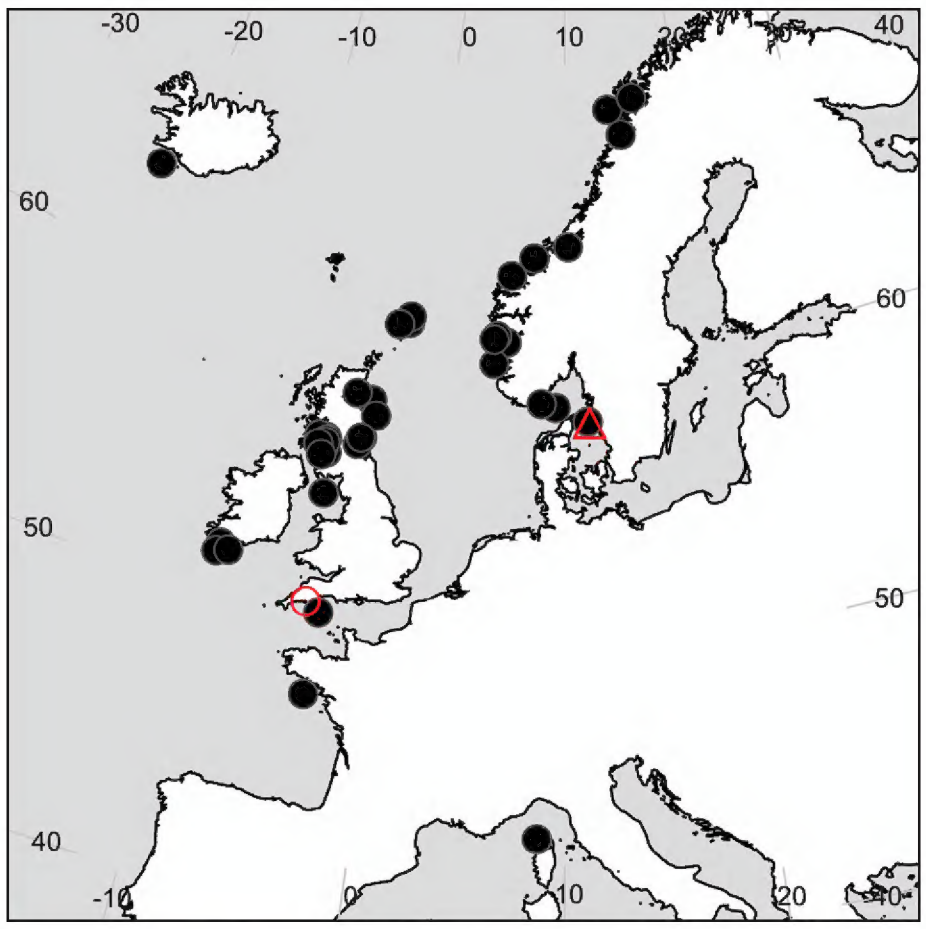

Figure 8. Distribution of *Scopelocheirus crenatus* Bate, 1957, and its synonyms. Circles represent records of *Scopelocheirus crenatus* and its objective synonyms; triangle represents the subjective synonym *Tryphosa sera* Meinert, 1890. Type localities are indicated by the corresponding open symbol.

? *Tryphosa serra* Meinert, 1890: 156, pl. 51, figs 30–38.
Callisoma crenatum. — Chevreux 1898: 476.
Callisoma hopei. — Della Valle 1893: 839 (in part).
Scopelocheirus crenata. — H.B. Moore 1937: 117.
Scopelocheiropsis crenatus. — Sanderson 1973: 38.

Type material. Syntypes, 26 specimens, NHM 1952:5:7:13.

Type locality. Plymouth Sound, United Kingdom.

Depth range. *Atlantic Ocean*: 3.7–323 m (Laverack and Blackler 1974, Enequist 1949). *Mediterranean Sea*: 2500 m (Chevreux 1935).

Distribution. In the literature, this species name has been widely recorded from the north-east Atlantic Ocean, with a single record from the Mediterranean Sea.

North Atlantic Ocean. *Denmark:* the Skagerrak and the Kattegat (Meinert 1890). *France*: South-west of Belle Île (Chevreux 1898). *Iceland:* South-west coast (Stephensen 1923a). *Ireland:* Bantry Bay (Haddon 1886); off Fastnet Rock (Pocock 1889); off Galley Head (Walker 1895). *North Sea Area:* north-west North Sea (Raitt 1937). *Norway:* Søndfjord; Hardangerfjord; and Haugesund (Boeck 1871, 1872); Alesund; Kristiansund (Boeck 1872); Trondheimsfjord (G.O. Sars 1890, Oldevig 1959); Skjerstadfjorden; Herdafjord, Bergen (Nordgaard 1911); Lofotens (Stephensen 1932); the Skagerrak (Enequist 1949); Raunefjorden (Mattson 1981). *United Kingdom:* Plymouth Sound (Bate 1862); Banff (Bate 1862); Macduff (Bate 1862); Moray Firth (Bate and Westwood 1863); Shetland Islands (Norman 1869); St. Andrews (from the stomach of a haddock) (M'Intosh 1874, Laverack and Blackler 1974); Loch Fyne (Robertson 1888, Chumley 1918); Loch Goil (Robertson 1888, Chumley 1918); off Garnock Beacon (Robertson 1888); Kilchattan Bay (Robertson 1888); Cumbrae (Robertson 1892); West of Bradda Head, Isle of Man (Walker 1895, 1896); Firth of Forth (Scott 1898); off Aberdeen (Scott 1900); Gareloch (Chumley 1918); Dunoon Basin (Chumley 1918); Skate Island (Chumley 1918); off Dartmouth, Devon (Chevreux 1935); Clyde (Sanderson 1973).

Mediterranean Sea. *France*: Off Corsica (Chevreux 1935).

Ecology. A scavenger that has been collected in baited traps (Chevreux 1935) and from dead fish on fishermen's lines (Sars 1890).

Discussion. We follow Stebbing (1906) and consider *Tryphosa serra* Meinert, 1890 to be a possible junior subjective synonym of *Scopelocheirus crenatus*. The record of Chevreux (1935) from off Corsica is the only known record of this species from the Mediterranean and is an order of magnitude deeper than all the Atlantic records. It may be a misidentification of *S. polymedus* Bellan-Santini, 1984.

Scopelocheirus hopei (Costa, 1851)

Figure 10

Callisoma Hopei A. Costa, 1851: 5. — A. Costa 1857: 188. — Bate 1862: 86, pl. 14, fig. 6. — Heller 1866: 27, pl. 3, figs 17, 18. Stossich 1880: 247. — Chevreux 1895: 426. — Norman 1895: 480. — Norman 1900: 200. — Chevreux 1903: 84. — Della Valle 1893: 839, pl. 6, fig. 11, pl. 26, figs 1–15 (in part).
? *Callisoma Barthelemyi* Costa, 1853a: 7.
? *Anonyx Kröyeri* Bruzelius, 1859: 45, pl. 2, fig. 7.
? *Callisoma Kröyeri*. — Bate 1862: 371. — Lilljeborg 1865a: 33. — Lilljeborg 1865b: 23. — Boeck 1871: 102. — Boeck 1872: 134. — Metzger 1875: 284 (table). — G.O. Sars 1890: 54, pl. 19, fig. 2. — Norman 1900: 200.
? *Callisoma Branickii* Wrzesniowski, 1874: 15. — Wrzesniowski 1879: 349.
? *Callisoma kröyeri*. — Walker 1898: 166.
Scopelocheirus hopei. — Stebbing 1906: 62 (key). — Cecchini 1928: 301. — Marine Biological Association of the UK 1931: 188. — Stephensen 1932: 355. — Stephensen 1935: 76. — Williams 1938: 89. — Schellenberg 1942: 111. — Stephensen 1942: 472 (table). — Enequist 1949: 387, 400 (table). — Gurjanova 1951: 241, fig. 106 (key). — Williams 1954: 77. — Bossanyi 1957: 357. — J.L. Barnard 1958: 99 (list). — Oldevig 1959: 16. — Krapp-Schickel 1974: 321 (list), 339. — Stroobants 1976: 256, figs 6(S)–10(S), tables 1–4. — Ledoyer 1977: 389. — Lincoln 1979: p. 50, fig. 16. — Mattson 1981: 115 (table 1). — P.G. Moore 1984: 36. — Mateus and Mateus 1986: 130. — Dauvin 1988: 420. — Costello et

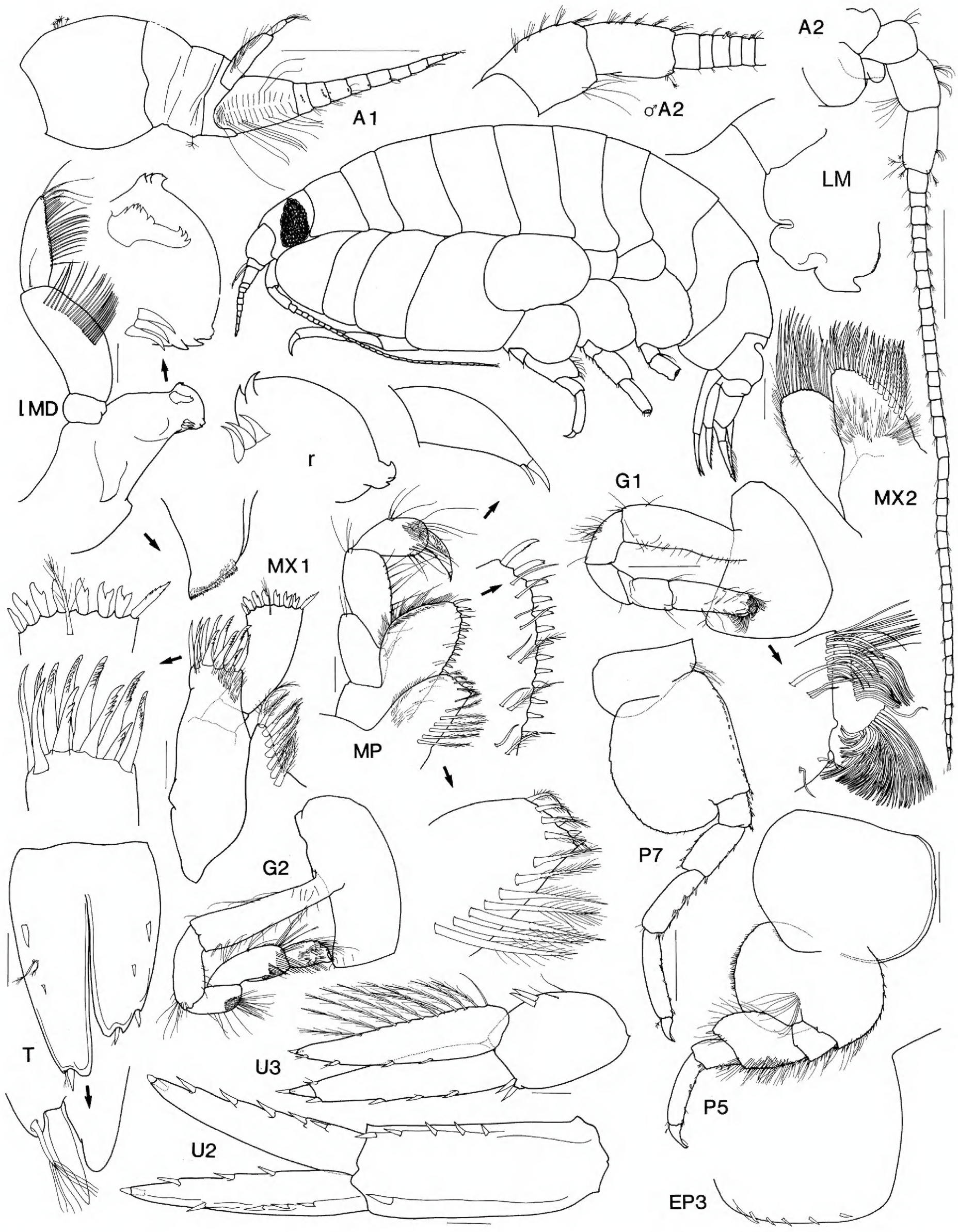

Figure 9. *Scopelocheirus crenatus* Bate. Female, 8.0 mm; male, 7.8 mm; AM P.35895, Skipness Point, Clyde Sea area, Scotland. Scales for antennae, gnathopods, pereopods represent 0.5 mm; remainder represent 0.1 mm.

al. 1989: 35 (in part, part *S. crenatus*). — Diviacco and Ruffo 1989: 542 (key), 544, fig. 372. — Kaartvedt 1989: 191, table 5. — Buhl-Jensen and Fosså 1991: 248, table 2. — Barnard and Karaman 1991: 528. — Nickell and Moore 1991: 368. — Palerud and Vader 1991: 43. — Albertelli et al. 1992: 142, 143, table 2. — Andres et al. 1992: 185, table 1. — Britton and Morton 1993: 369. — Dauvin et al. 1994: 551, table 3. — Ishimaru 1994: 59 (list). — Buhl-Mortensen 1996: 49, appendix 1. — Dauvin and Sorbe 1996: 443, 447, 449 (tables 3–5). — Krapp-Schickel and Zavodnik 1996: 459 (list). — Vallet and Dauvin 1996: 481. — Cunha et al. 1997: 133, appendix 1. — Ramsay et al. 1997: 892, table 6, 894. — Bellan-Santini 1998: 874, table 3. — Bellan-Santini and Ruffo 1998: 900, table 7. — Cartes and Sorbe 1999: 1138, table 1. — Miskov-Nodland et al. 1999: 154, appendix. — Groenewold and Fonds 2000: 1398. — O'Reilly et al. 2001: 36. — Bergmann et al. 2002: 190, figs 6a, 8, appendix 1. — Dauvin and Bellan-Santini 2002: 317, table 1. — Jones et al. 2003: 79, table 3, fig. 3. — Cartes et al. 2003: 748, table 1. — Kaim-Malka 2003: 37, figs 3–13, tables 1–7. — Castro et al. 2005: 442, table 3. — Horton 2006: 19, table 1. — Madurell et al. 2008: 338, table 1, 339, table 2. — Zakhama-Sraieb et al. 2009: 5, table 3. — Danovaro et al. 2010: 6. — Christodoulou et al. 2013: 12, table 2.

Scopelocheirus Hopei. — Chevreux 1911: 169. — Massy 1912: 40, 41. — Monod 1923: 22. — Stephensen 1923b: 15. — Chevreux and Fage 1925: 55, figs 39, 40. — Chevreux 1927: 61. — Stephensen 1929: 64. — Cecchini and Parenzan 1935: 165. — Chevreux 1935: 41. — Macquart-Moulin 1984: 185.

Scopelocheiropsis hopei. — Sanderson 1973: 38.

Not *Scopelocheirus hopei*. — Nagata 1965: 148. — Sekiguchi and Yamaguchi 1983: 10, fig. 6. (Probably = *Aroui onagawae*).

Type material. Probably lost.

Type locality. Naples, Italy, Mediterranean Sea.

Depth range. *Mediterranean Sea*: 34–2500 m (Stroobants 1976, Chevreux 1903). *Atlantic Ocean*: 12–2620 m (Stephensen 1923b, Chevreux 1903). ?*Pacific Ocean*: 40–519 m (Nagata 1965, Sekiguchi and Yamaguchi 1983).

Distribution. Widely recorded from the North Atlantic Ocean and Mediterranean Sea. Records from Japan are tentatively referred to *Aroui onagawae* (Sekiguchi & Yamaguchi, 1983).

North Atlantic Ocean. *Denmark*: near Horns Revs Lighthouse (Stephensen 1923b); the eastern Skagerrak (Stephensen 1923b); north of Skagen (Enequist 1949). *France*: Fosse de Capbretton (Norman 1900); Bay of Biscay (Chevreux 1903); off Roscoff (Dauvin 1988, Dauvin et al. 1994); Cap-Ferrat Canyon (Dauvin and Sorbe 1996). *Guinea-Bissau*: (Mateus and Mateus 1986). *Ireland*: Off the Skelligs, Co. Kerry; Ballycotton, Co. Cork

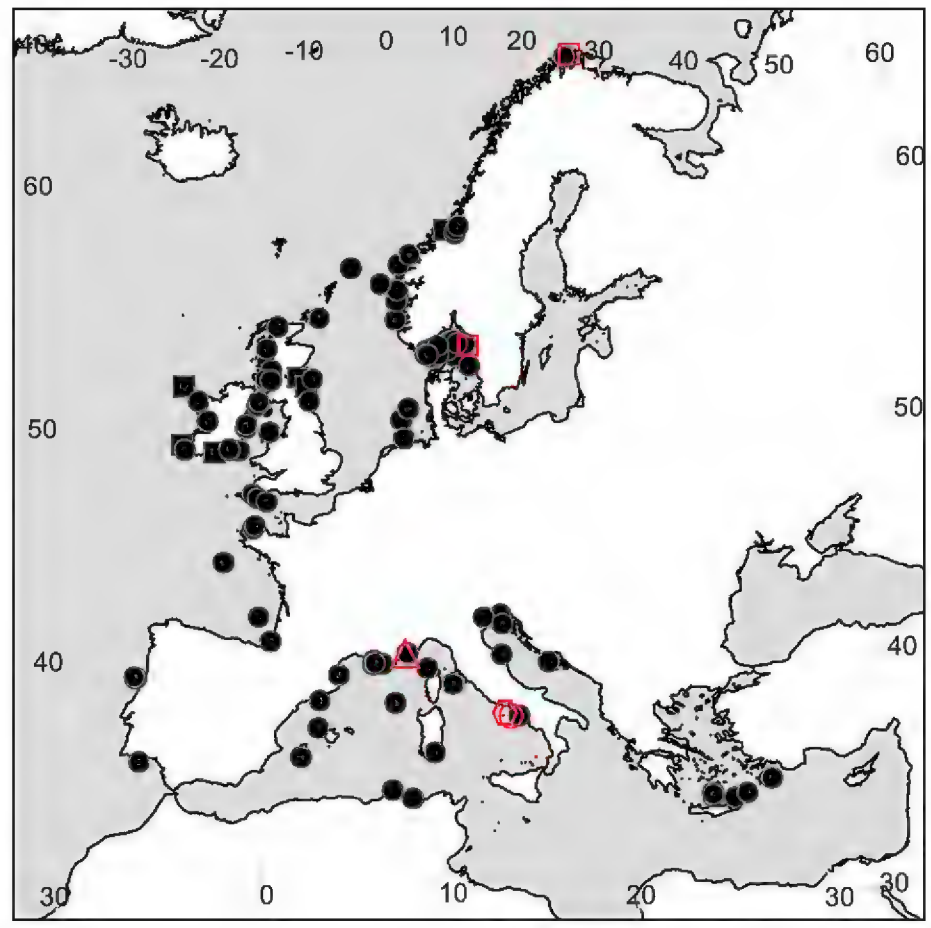

Figure 10. European distribution of *Scopelocheirus hopei* (Costa, 1851) (African distribution excluded). Circles represent records of *Scopelocheirus hopei* and its objective synonyms. Subjective synonyms are represented by the following symbols: (■) *Anonyx Kröyeri* Bruzelius, 1859; (▲) *Callisoma Branickii* Wrzesniowski, 1874; (●) *Callisoma Barthelemyi* Costa, 1853. Type localities are indicated by the corresponding open symbol.

(Walker 1898) (as *Callisoma kröyeri*); off south-west Ireland (Norman 1900); Dundrum-Dublin coast (Massey 1912); Galway Bay (McGrath 1981); Malahide; off Tuskar Rock; Hook Head; off Dunmore East; off Achill Head (Costello et al. 1989). *Norway*: Beian, Trondheimsfjord (G.O. Sars 1890) (as *Callisoma Kröyeri*); Raudeberg, Trondheimsfjord (Norman 1895); Finnmark (Bruzelius 1859) (as *Anonyx Kröyeri*); off the Aas Fjord; Strind Fjord; Gulosen; near Byberget, Trondheim region (Enequist 1949); Ålesund; north-west of Bergen; south-west of Haugesund; Skarnsyndet; Kjelvik (Oldevig 1959); Raunefjorden (Mattson 1981); Masfjorden (Kaartvedt 1989); Norwegian Shelf area (Buhl-Mortensen 1996); the Skagerrak (Miskov-Nodland et al. 1999). *Portugal:* off Aveiro (Andres et al. 1992, Cunha et al. 1997); south of Olhão (Castro et al. 2005). *Sweden*: Bohuslän (Bruzelius 1859) (as *Anonyx Kröyeri*); Gullmar Fjord, Bohuslän (Enequist 1949, Oldevig 1959, Buhl-Jensen and Fosså 1991); west of Hållo (Enequist 1949); Löken, Gåsö Ränn; west of Nidingen (Oldevig 1959). *United Kingdom*: Firth of Forth (Metzger 1875) (as *Callisoma Kröyeri*); Banff; Firth of Clyde; Firth of Forth; Inverary; Northumberland coast; Polperro, Cornwall; Seaham, Co. Durham; Shetland Islands; Sleat Sound (Norman 1900); Devon (Plymouth Marine Fauna 1931); off Dartmouth; east of the Orkney Islands (Chevreux 1935); Strangford Lough, Co. Down; off Donaghadee, Co. Down (Williams 1954); off Blyth, Northumberland (Bossanyi 1957); Clyde Area (Sanderson 1973, Moore 1984, Bergmann et al. 2002); near Assynt (Sanderson 1973); Anglesey (Ramsay et al. 1997).

Mediterranean Sea. *Algeria:* Annaba (Chevreux 1911). *Croatia*: Hvar (Heller 1866); Rovinj (Krapp-Schickel and Zavodnik 1996). *France*: ?Nice (Wrzesniowski 1874) (as *Callisoma branickii*); Calvi, Corsica (Chevreux 1903); Cap d'Ail (Monod 1923); Bonifacio, Corsica (Chevreux 1927); Canyon de Planier (Ledoyer 1977, Kaim-Malka 2003); south-east of Planier, north of Ratonneau; south of Île des Embiez (Ledoyer 1977); Banyuls-sur-Mer (Diviacco and Ruffo 1989); off Marseille (Ledoyer 1977, Kaim-Malka 2003). *Greece:* Cretan Sea; Rhodes Basin (Jones et al. 2003). *Italy*: Gulf of Naples (Costa 1851, 1857, Della Valle 1893, Cecchini 1928, Cecchini and Parenzan 1935); Monte Cristo Island (Chevreux 1895); Cagliari (Stroobants 1976); Ancona; Venice (Diviacco and Ruffo 1989). *Slovenia*: Piran (Heller 1866). *Spain:* Catalan slope (Cartes and Sorbe 1999); Balearic Islands (Cartes et al. 2003; Madurell et al. 2008). *Tunisia*: Between La Galite and Cap Serrat (Chevreux 1911).

Ecology. A known scavenger, taken in baited traps (Chevreux 1895). Also reported as an associate of *Clypeaster* spp. (Wrzesniowski 1874) and *Echinocardium cordatum* (Pennant, 1777) (Metzger 1875, Plymouth Marine Fauna 1931); taken from the back and between the legs of *Maja squinado* (Herbst, 1788) (Plymouth Marine Fauna 1931); taken from the cranial cavity and along the nerve tracts of *Squalus acanthias* Linnaeus, 1758 (Williams 1938).

Discussion. Japanese records of *S. hopei* by Nagata (1965) and Sekiguchi and Yamaguchi (1983) are here considered to be inaccurate on the basis of their distribution, and some morphological inconsistencies with the European form such as the shape of the urosomite 1 (dorsally rounded in the European *S. hopei*, dorsally truncated in the Japanese specimens) and the length of the uropod 3 inner ramus (slightly shorter than and reaching at least to article 2 of outer ramus European specimens, much shorter than outer ramus in the Japanese specimens). It is possible that these records may actually represent *Aroui onagawae*. Unfortunately, the only illustration of Japanese specimens (by Sekiguchi and Yamaguchi (1983)) does not show the setae on the outer plate of maxilla 2 and as such precludes a generic placement in either *Aroui* or *Scopelocheirus*. However, all of the other illustrated characters correspond to the description and illustration of *A. onagawae* by Takekawa and Ishimaru (2000).

Scopelocheirus polymedus Bellan-Santini, 1985

Figure 11

Scopelocheirus polymedus Bellan-Santini, 1985a: 275, figs 1, 2. — Bellan-Santini 1985b: 334. — Diviacco and Ruffo 1989: 542 (key), 544, figs 373, 374. — Bellan-Santini 1998: 874, table 3. — Bellan-Santini and Ruffo 1998: 900, table 7. — Bellan-Santini 1990: 277, 279. — Barnard and Karaman 1991: 528. — Jones et al. 2003: 79, table 3, fig. 3. — Danovaro et al. 2010: 6. — Christodoulou et al. 2013: 12, table 2.

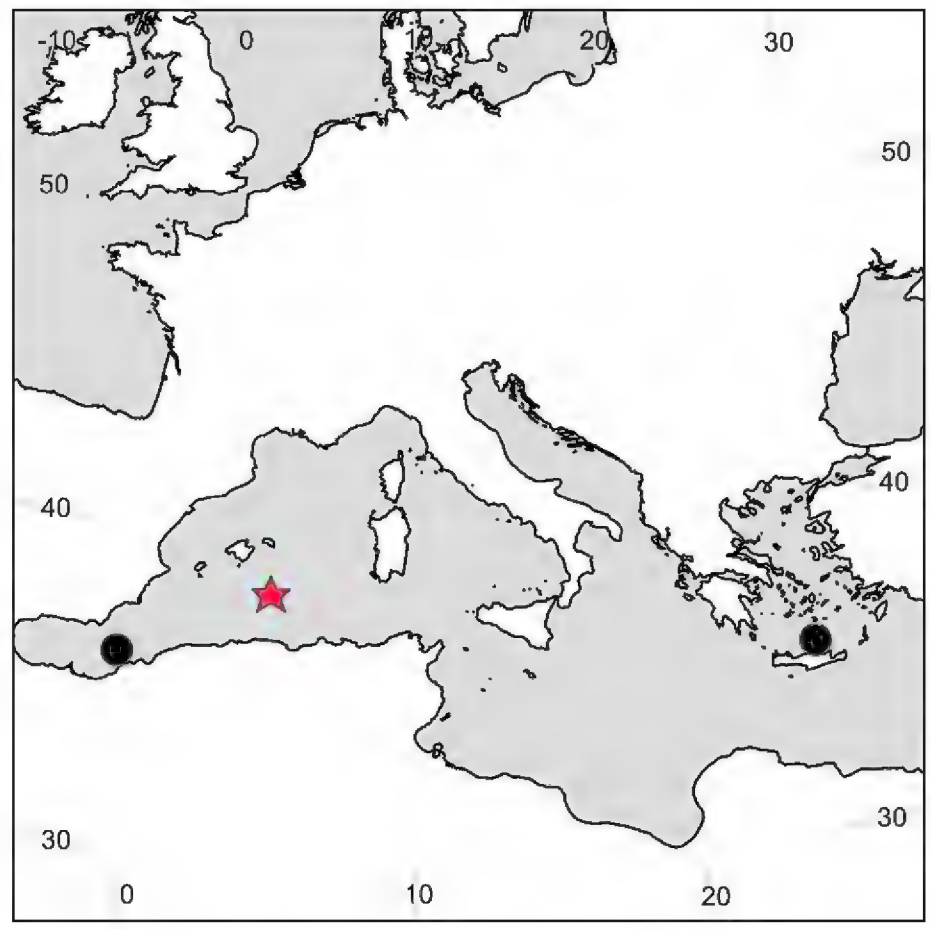

Figure 11. Distribution of *Scopelocheirus polymedus* Bellan-Santini, 1984. Star indicates type locality.

Type material. Holotype, female, 9 mm, MSNV 213.

Type locality. South-east of Mallorca, Mediterranean Sea (38°27'N, 04°08'E), 2447 m depth.

Depth range. 1511–2447 m (Jones et al. 2003, Bellan-Santini 1985a).

Distribution. Mediterranean Sea. Western Basin, south-east of Mallorca (Bellan-Santini 1985a). *Algeria*: north-west of Oran (Bellan-Santini 1985a). *Greece*: Cretan Sea (Jones et al. 2003).

Ecology. Taken in baited traps (Jones et al. 2003).

Discussion. Many of the deeper records of *S. hopei*, particularly those from the Mediterranean may actually be misidentifications of *S. polymedus*, and should be re-examined to confirm their identity.

Subfamily Paracallisominae subfam. n.

http://zoobank.org/015E0211-83B5-4A15-BA80-11E5872DAF2F

Included genera. The Paracallisominae contains 7 genera: *Anisocallisoma* Hendrycks & Conlan, 2003; *Bathycallisoma* Dahl, 1959; *Eucallisoma* J.L. Barnard, 1961; *Austrocallisoma* gen. n.; *Paracallisoma* Chevreux, 1903; *Scopelocheiropsis* Schellenberg, 1926; *Tayabasa* gen. n.

Diagnosis. Mandible a non-setose flap or occasionally absent (*Scopelocheiropsis sublitoralis*).

Anisocallisoma Hendrycks & Conlan, 2003

Anisocallisoma Hendrycks & Conlan, 2003: 2313.

Type species. *Anisocallisoma armigera* Hendrycks & Conlan, 2003, by monotypy.

Included species. *Anisocallisoma* includes one species: *A. armigera* Hendrycks & Conlan, 2003.

Diagnostic description. *Mandible lacinia mobilis a long, slender robust seta. Maxilla 1 inner plate with apical pappose setae only; palp 1-articulate*. Maxilla 2 inner and outer plates subequal in width and in length. Maxilliped palp article 4 reduced. Gnathopod 1 coxa reduced, margins tapering distally; basis swollen; dactylus reduced, simple. Pereopods 3 and 4 carpus short, longer than wide. *Pereopod 4 coxa with weakly-developed, subacutely produced posteroventral lobe*.

Discussion. *Anisocallisoma* can be distinguished from all other paracallisomines by the reduction in the number of setae of the maxilla 1 inner plate. It is most similar to *Eucallisoma* Barnard, 1961, and *Tayabasa* gen. n. They share the following characters: gnathopod 1 basis swollen, glandular; dactylus reduced, simple. It is also very similar to the new genus *Austrocallisoma*, but it can be distinguished from all of these taxa in lacking the distal tuft of setae on the accessory flagellum, and in having a much more weakly-developed posteroventral lobe on the pereopod 4 coxa, as well as the reduced setae on the maxilla 1.

Anisocallisoma armigera Hendrycks & Conlan, 2003

Figure 12

Anisocallisoma Hendrycks & Conlan, 2003: 2314.

Type material. Holotype, male, 5.5 mm, CMNC 2002-0003. Allotype, female, 3.7 mm, CMNC 2002-0004. Paratypes: 1 male, 4.1 mm, CMNC 2002-0005; 1 male, 5.7 mm, CMNC 2002-0006; 1 male, ZMUC CRU-3722.

Type locality. Station M, 220 km off Point Conception, California, United States (34°47.2'N, 123°03.0'W), 3450 m.

Depth range. 3450–4050 m (Hendrycks and Conlan 2003).

Distribution. *United States*: off Point Conception, California (Hendrycks and Conlan 2003).

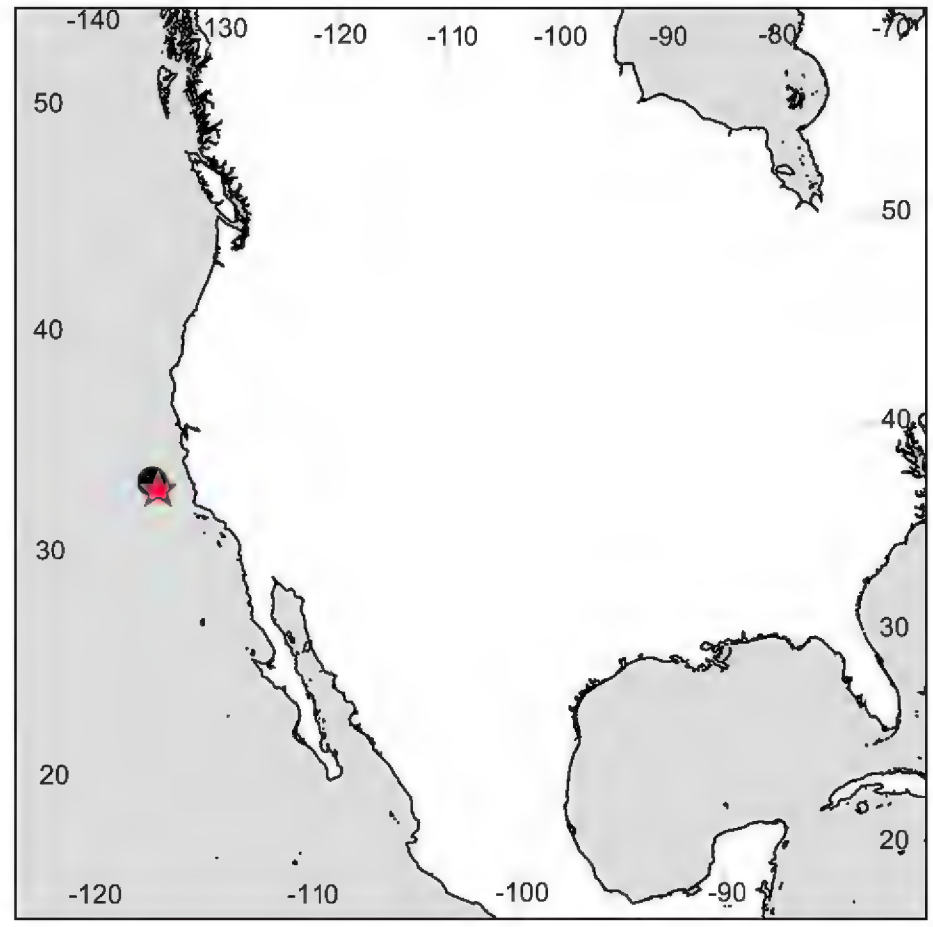

Figure 12. Distribution of *Anisocallisoma armigera* Hendrycks & Conlan, 2003. Star indicates type locality.

Austrocallisoma gen. n.

http://zoobank.org/13BBD64A-FF5E-40EA-BE98-52946A289F28

Type species. *Austrocallisoma jerryi* sp. n., by original designation.

Included species. *Austrocallisoma* includes one species: *Austrocallisoma jerryi* sp. n.

Diagnostic description. *Mandible lacinia mobilis a stemmed distally expanded, irregularly cusped blade. Maxilla 1* inner plate with pappose setae lining inner margin; *palp 1-articulate*. Maxilla 2 inner plate broader than outer, inner and outer plates subequal in length. Maxilliped palp article 4 vestigial. *Gnathopod 1 coxa reduced*, slightly shorter than coxa 2, margins slightly tapering distally; basis swollen, without glandular material; dactylus reduced, simple. Pereopod 3 carpus short to long, longer than wide. *Pereopod 4 with well-developed, subacute posteroventral lobe*.

Etymology. The name is a combination of the prefix *Austro-* from the latin *australis*, meaning southern and referring to the southern hemisphere distribution of the type species, and the suffix *-callisoma* (gender neuter) referring to its placement within the Paracallisominae.

Discussion. *Austrocallisoma* gen. n. is a difficult taxon that has much in common with the monotypic genera *Anisocallisoma*, *Eucallisoma* and *Tayabasa* gen. n. Having four monotypic genera that are highly derived yet clearly closely related is not ideal. However, to maintain consistency of diagnostic characters at a generic level we feel justified in establishing this new genus.

Austrocallisoma can be separated from both *Eucallisoma* and *Anisocallisoma* by the strongly developed and subacute posteroventral lobe on the pereopod 4 coxa (well-developed and subquadrate in *Eucallisoma*, very weakly-developed and subacute in *Anisocallisoma*). It can be further distinguished from *Anisocallisoma* in having plumose setae lining the inner margin of the inner

plate of maxilla 1, and having a distal tuft of setae on the accessory flagellum. It differs from *Eucallisoma* in having a vestigial maxilliped palp article 4 (well-developed in *Eucallisoma*).

Austrocallisoma jerryi sp. n.

http://zoobank.org/D2E70936-572C-4DED-BAC7-C465C923AA69
Figures 13–16

Type material. Holotype, female, 32.0 mm, AM P.69087, east of Sydney, New South Wales, Australia (33°44.5–08.9'S, 152°24.4–09.68'E), 0–1800 m over bottom depth 2994–3828 m, Isaacs-Kidd midwater trawl, 27–28 April 1989, coll. J.R. Paxton, HMAS *Cook* [JP 89-5]. Paratype, 1 immature female with non-setose oostegites, 26.0 mm, AM P.70171, east of Sydney, New South Wales, Australia (33°52.5–53.92'S, 152°39.0–05.9'E), 0–1800 m over bottom depth 1700–4856 m, Isaacs-Kidd midwater trawl, 27 April 1989, coll. J.R. Paxton, HMAS *Cook* [JP 89-3].

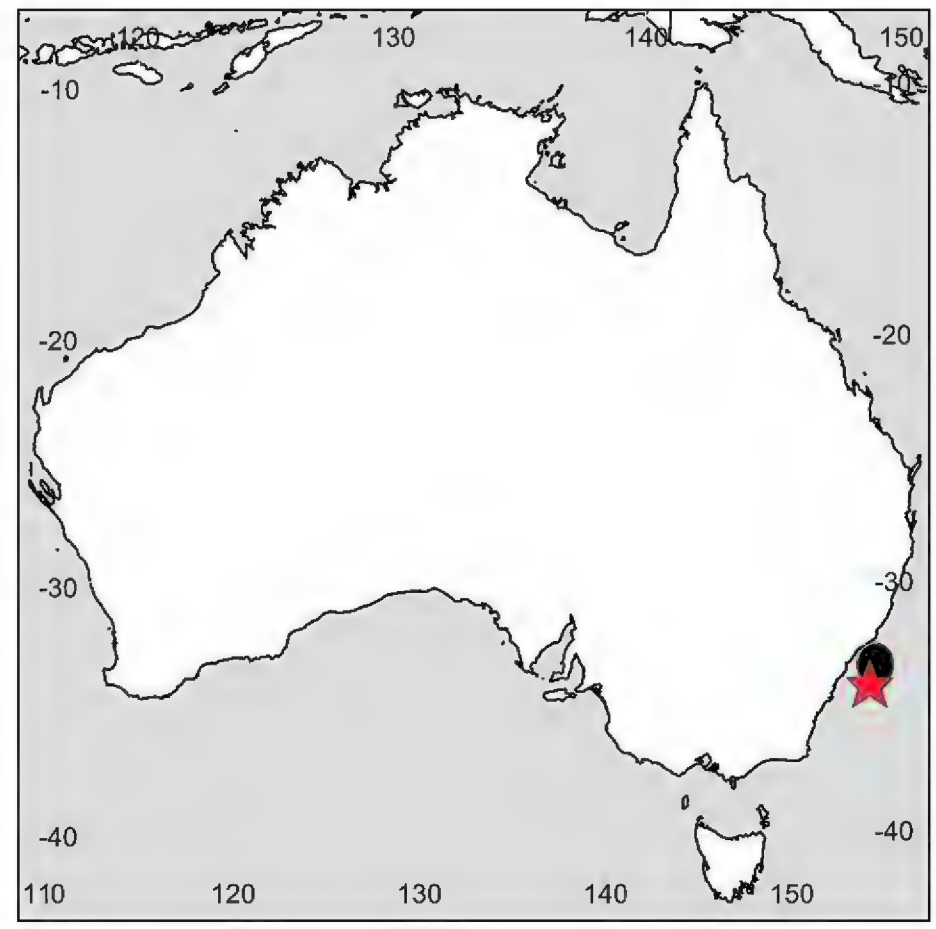

Figure 13. Distribution of *Austrocallisoma jerryi* sp. n. Star indicates type locality.

Diagnosis. Mandible lacinia mobilis a stemmed distally expanded, irregularly cusped blade. Maxilla 1 palp 1-articulate. Maxilliped palp article 4 absent. Gnathopod 1 coxa reduced, slightly shorter than coxa 2; basis swollen, without glandular material.

Description. Based on holotype female, 32.0 mm, AM P.69087.

Lateral cephalic lobe large, triangular, apically subacute. Rostrum absent. Eyes apparently absent. Antenna 1 short; accessory flagellum long, 2-articulate, forming cap partially covering callynophore; primary flagellum 7-articulate, with strong 2-field callynophore; calceoli absent. Antenna 2 longer than antenna 1; peduncle with strong brush setae, article 1 greatly enlarged, covering article 2; flagellum 30-articulate, calceoli absent.

Labrum, epistome produced, rounded distally; upper lip slightly produced, straight. Mandible incisor with slightly convex margins; lacinia mobilis a stemmed, distally expanded, irregularly cusped blade; molar flap-like; palp attached midway, article 2 slender. Maxilla 1 inner plate with pappose setae lining inner margin; palp 1-articulate. Maxilla 2 inner and outer plates subequal in length; outer plate without long distally barbed slender setae. Maxilliped outer plate small; palp large, 4-articulate; dactylus vestigial, represented by a short, narrow, curving robust seta.

Gnathopods 1–4 coxae without setal fringe along ventral margin. Gnathopod 1 coxa reduced, margins slightly tapering distally; basis broad; ischium long; carpus long, slightly longer than propodus; propodus margins tapering distally, anterodistal margin with row of long, slender setae, with 1 robust seta just above dactylus; dactylus small, simple, well developed, posterior margin without setae, without cusps along posterior margin. Gnathopod 2 minutely subchelate; propodus long, palm transverse; dactylus reaching corner of palm. Pereopod 3 simple; propodus with posterodistal locking setae; dactylus short, slender. Pereopod 4 simple; coxa wider than deep, with subacutely produced posteroventral lobe; dactylus short, slender. Pereopod 5 simple; coxa with posterior lobe slightly produced; basis much longer than broad, moderately expanded posteriorly, posterior margin straight, posteroventral lobe moderately broadened, not extending beyond ischium; without row of long slender pappose setae medially; dactylus short, slender. Pereopod 6 basis moderately expanded with straight posterior margin, with rounded, moderately broadened posteroventral lobe, produced into merus; dactylus short, slender. Pereopod 7 basis rounded, expanded posteroproximally, posterior margin almost straight, smooth, forming a posteroventral lobe produced along merus, posteroventral margin rounded; dactylus short, slender.

Epimeron 3 posteroventral corner subquadrate. Urosomite 1 dorsally smooth. Uropod 1 peduncle 2.2 × rami length; rami subequal in length. Uropod inner ramus slightly shorter than outer ramus. Uropod 3 peduncle short; rami lanceolate, subequal in length, outer ramus (?) 2-articulate, with plumose setae. Telson longer than broad, length 2 × breadth, moderately cleft (to 59%).

Etymology. Named in honour of Jerry Barnard, in recognition of his enormous contribution to amphipod taxonomy.

Depth range. 0–1800 m over a bottom depth of 1700–4856 m.

Distribution. *Australia*: east of Sydney, New South Wales.

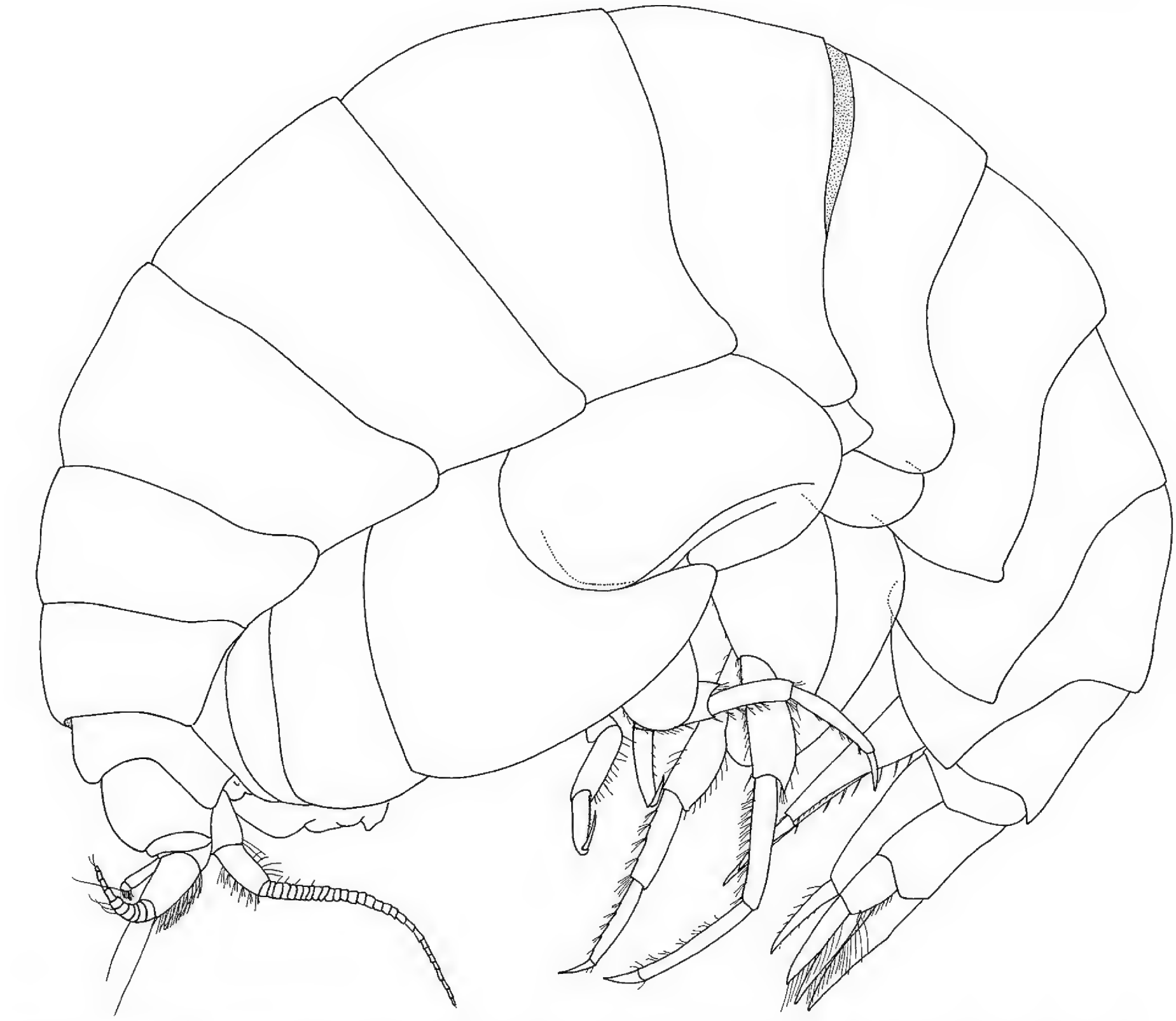

Figure 14. *Austrocallisoma jerryi* sp. n., holotype, female, 32.0 mm, AM P.69087, from east of Sydney, New South Wales, Australia.

Discussion. The tip of the outer ramus on uropod 3 on both sides is damaged in both specimens available for study. Judging from where the damage occurs we suspect that the ramus is 2-articlulate, however this is uncertain.

Bathycallisoma Dahl, 1959

Bathycallisoma Dahl, 1959: 220. — Gurjanova 1962: 433. — J.L. Barnard 1969: 305, key K, 328. — Ledoyer 1986: 733 (in part, part *Scopelocheiropsis*).

Scopelocheirus. — Birstein and Vinogradov 1960: 178 (in part). — Gurjanova 1962: 319 (in part). — Barnard and Karaman 1991: 528 (in part).

Type species. *Bathycallisoma pacifica* Dahl, 1959 by monotypy (=*S. schellenbergi* Birstein & Vinogradov, 1958).

Included species. *Bathycallisoma* includes one species: *Bathycallisoma schellenbergi* (Birstein & Vinogradov, 1958).

Diagnostic description. *Mandible lacinia mobilis a long, slender robust seta*. Maxilla 1 inner plate with pappose setae lining inner margin; palp 2-articulate. Maxilla 2 inner plate broader than outer plate; inner plate slightly shorter than outer plate. Maxilliped palp article 4 well developed. Gnathopod 1 coxa large, margins strongly diverging distally proximally slender, strongly broadened distally; dactylus small, simple, highly modified with blunt apical tip. Pereopod 3 carpus short to compressed, about as long as wide. *Pereopod 4 coxa with weakly-developed, subacutely produced posteroventral lobe*.

Discussion. This monotypic taxon is very similar to *Scopelocheiropsis* Schellenberg, 1926. The main diagnostic character is the form of the lacinia mobilis, which is a long, narrow robust seta in *Bathycallisoma*, compared with a stemmed and distally expanded 'blade' in *Scopelocheiropsis*. Aside from this, there is a large difference in body size of these animals, *Bathycallisoma schellenbergi* being an order of magnitude larger than any *Scopelocheiropsis* species.

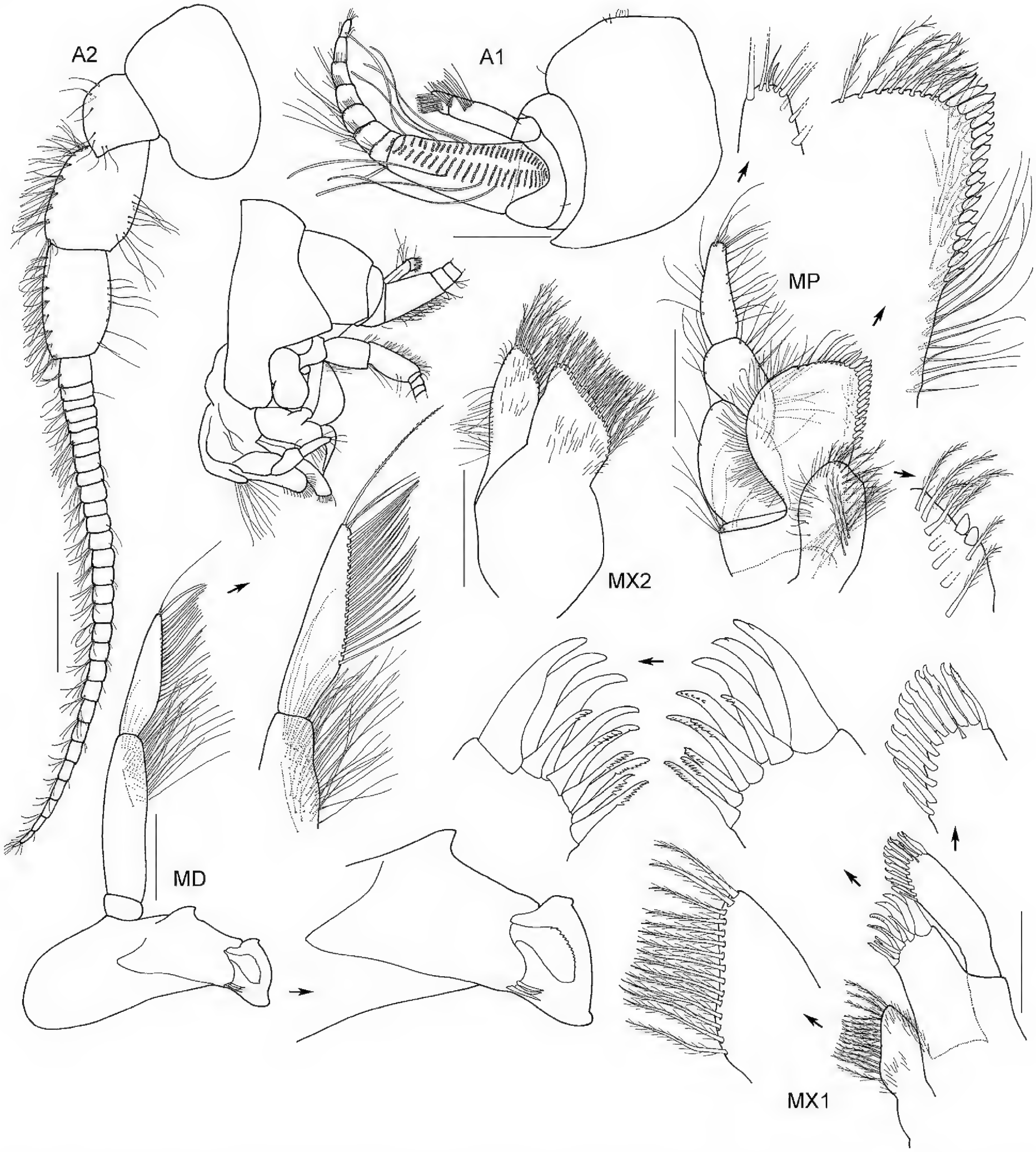

Figure 15. *Austrocallisoma jerryi* sp. n., holotype, female, 32.0 mm, AM P.69087, from east of Sydney, New South Wales, Australia. Scales represent 0.5 mm.

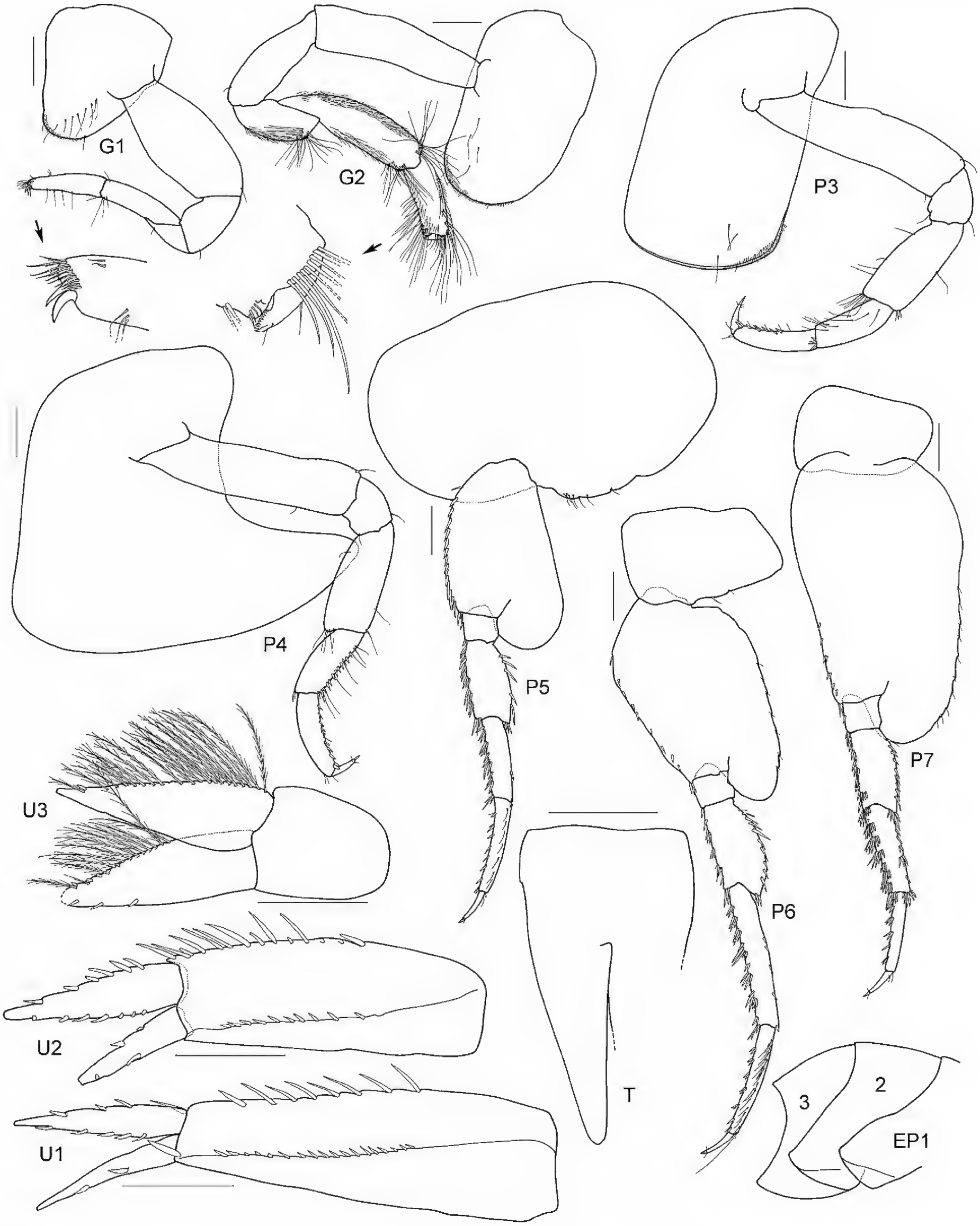

Figure 16. *Austrocallisoma jerryi* sp. n., holotype, female, 32.0 mm, AM P.69087, from east of Sydney, New South Wales, Australia. Scales represent 0.5 mm.

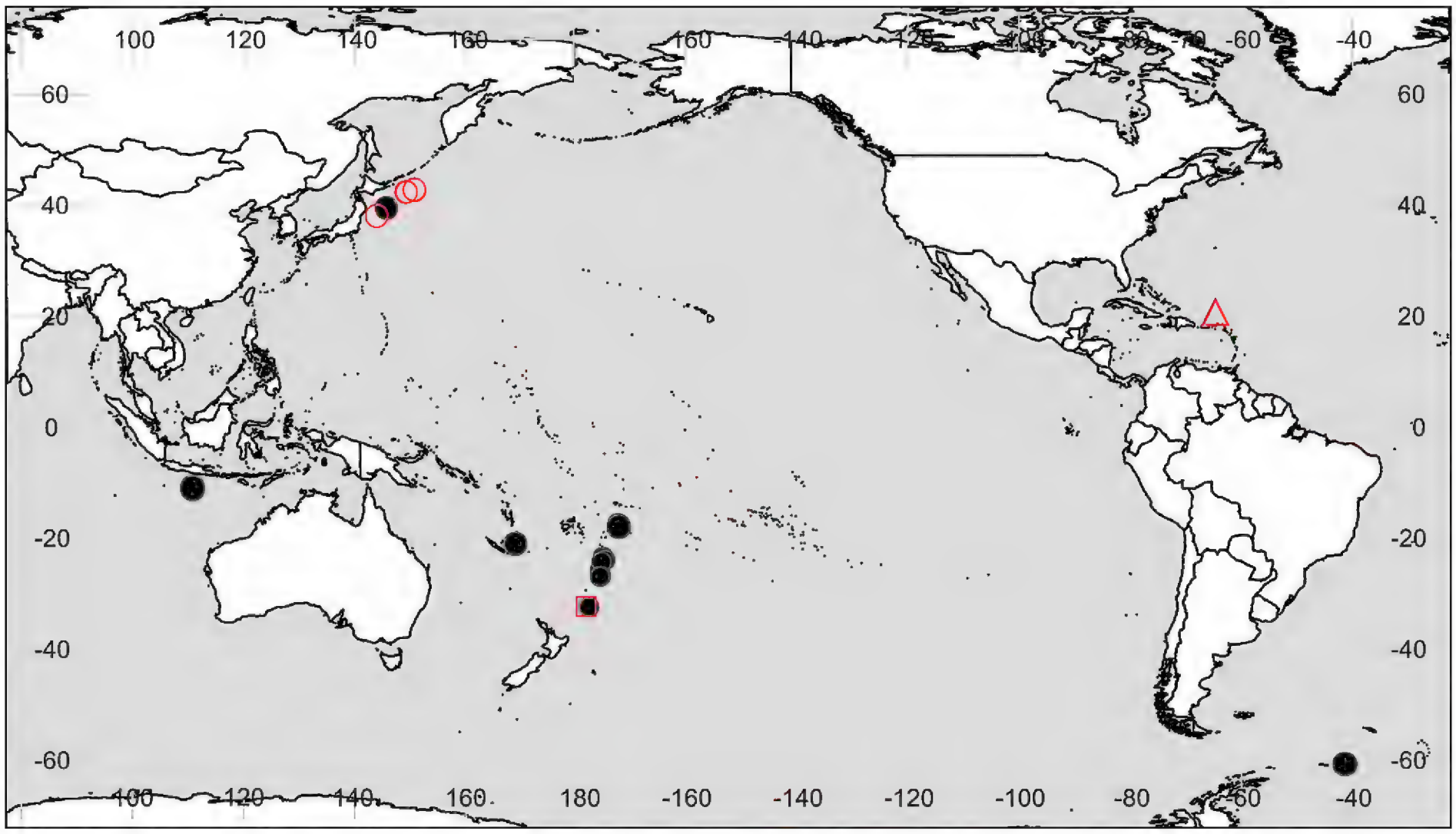

Figure 17. Distribution of *Bathycallisoma schellenbergi* (Birstein & Vinogradov, 1958) and its synonyms. Circles represent *Bathycallisoma schellenbergi* and its objective synonyms. Subjective synonyms are represented by the following symbols: (■) *Bathycallisoma pacifica,* (▲) aff. *Paracallisoma* spec. Type localities are represented by the corresponding open symbol.

Bathycallisoma schellenbergi (Birstein & Vinogradov, 1958)

Figures 17, 18

? aff. *Paracallisoma* spec. Schellenberg, 1955: 185, fig. 1.

Scopelocheirus schellenbergi Birstein & Vinogradov, 1958: 224, figs 3, 4. — Birstein and Vinogradov 1960: 178. — Gurjanova 1962: 321, figs 104a, b. — Birstein and Vinogradov 1964: 161. — J.L. Barnard 1964: 319. — Birstein and Vinogradov 1970: 402, 417 (table 3). — ?Kamenskaya 1981: 42. — Barnard and Karaman 1991: 528. — ?Vinogradov and Vinogradov 1993: 130. — Lörz and Held 2004: 11 (Appendix A). — Blankenship and Yayanos 2005: 892, fig. 2. — Blankenship et al. 2006: 51, 53 (table 2), figs 2, 3. — De Broyer et al. 2007: 159. — Blankenship and Levin 2007: 1685, fig. 1, 1687 (table 1). — Jamieson et al. 2009: 1040. — Jamieson et al. 2011: 54, 55 (table 3), 58 (table 6). — Søreide and Jamieson 2013: 3, fig. 4.

Bathycallisoma pacifica Dahl, 1959: 222, figs 6–8. — Gurjanova 1962: 433. (Holotype, 1 female, about 33 mm, somewhat mutilated, ZMUC CRU-7674; Kermadec Trench, South Pacific Ocean (32°10'S, 177°14'W), brown clay with pumice, 6960–7000 m depth).

Bathycallisoma schellenbergi. — Wolff 1959: 255 (table 1). — Gurjanova 1962: 433. — Nagata 1963: 1. — Ortiz 1979: 19.

Type material. Syntypes, 3 specimens, 26, 27 and 42 mm, ZMM.

Type locality. North Pacific Ocean, Japan Trench (38°03'N, 143°57'E), 0–7000 m over bottom depth 7200 m; Kuril-Kamchatka Trench (43°48'N, 149°55'E), 0–8000 m over bottom depth 9180 m; and Kuril-Kamchatka Trench (44°08'N, 150°22'E), 0–6580 m over bottom depth 8900 m.

Depth range. Approximately 5600–9104 m (current study, Blankenship et al. 2006).

These records represent the shallowest and deepest known certain depths in the literature for *B. schellenbergi.* Records of 0–8129 m over a bottom depth of 10437 m (Birstein and Vinogradov 1960) are excluded as this equates only to length cabled out during mid-water trawls, thus the exact depth of capture is unknown.

Distribution. *Indian Ocean*: Java Trench (Birstein and Vinogradov 1964). *North Pacific Ocean*: Kurile-Kamchatka Trench (Birstein and Vinogradov 1958, Birstein and Vinogradov 1970); Japan Trench (Birstein and Vinogradov 1958, Nagata 1963). *South Pacific Ocean*: Kermadec Trench (Dahl 1959, Blankenship et al. 2006); New Hebrides Trench (Birstein and Vinogradov 1960, current study); Tonga Trench (Birstein and Vinogradov 1960, Blankenship and Levin 2007, Jamieson et al. 2011). *?North Atlantic Ocean*: Puerto Rico Trench (Schellenberg 1955). *?South Atlantic Ocean*: Orkney Trench (Vinogradov and Vinogradov 1993).

Ecology. This species has been taken frequently in baited traps (Blankenship et al. 2006, Jamieson et al. 2011),

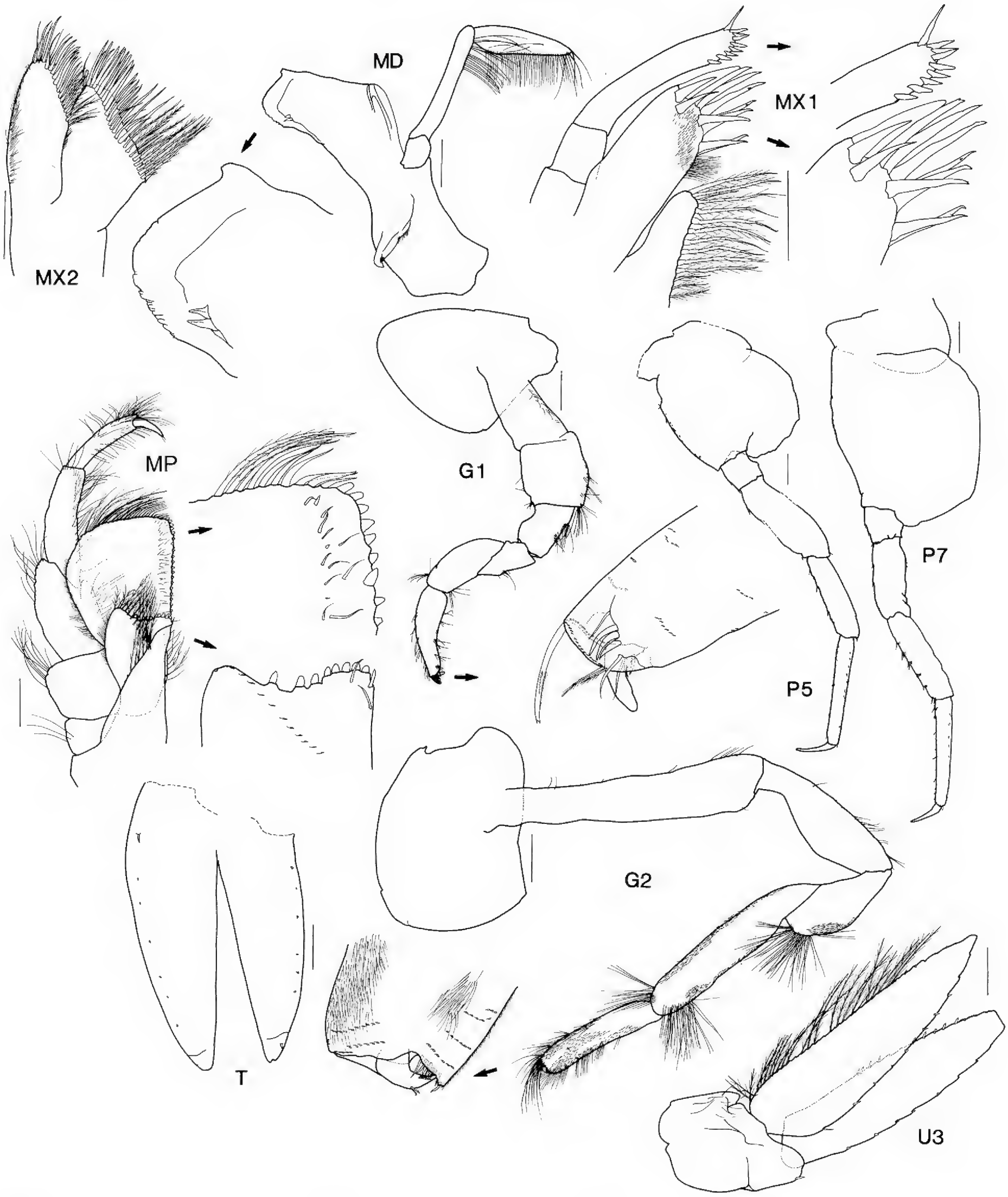

Figure 18. *Bathycallisoma pacifica* Dahl, 1959. Holotype female, 33 mm, ZMUC CRU-7674, Kermadec Trench. Scales for gnathopods, pereopods represent 1.0 mm; remainder represent 0.5 mm.

and seems also to live a semi-pelagic lifestyle as it has been taken in mid-water trawls (e.g. Birstein and Vinogradov 1958). It appears to be a lower abyssal and hadal endemic.

Discussion. Dahl (1959) described the genus *Bathycallisoma* for his new species *B. pacifica* from the Kermadec Trench, placing aff. *Paracallisoma* spec. Schellenberg 1955 from the Puerto Rico Trench in its synonymy. While Dahl's publication was in press Birstein and Vinogradov (1958) published an account of the amphipods of the north-western Pacific, including a new species, *Scopelocheirus schellenbergi*, also with aff. *Paracallisoma* spec. Schellenberg 1955 in its synonymy. Dahl (1959) consequently included a footnote in his account, stating that Schellenberg's specimen should be

referred to *Scopelocheirus schellenbergi*, which in turn should be recombined as *Bathycallisoma schellenbergi*. He considered his Kermadec specimen to be a separate species from *B. schellenbergi* based on the shape of the first gnathopod and "some other minor characteristics". We cannot observe these differences and so prefer to retain *B. pacifica* as a junior subjective synonym of *B. schellenbergi*, thereby agreeing with most subsequent authors.

Eucallisoma J.L. Barnard, 1961

Eucallisoma J.L. Barnard, 1961: 32. — J.L. Barnard 1969: 305, key K. — Barnard and Karaman 1991: 454 (key), 484, figs 86C, 92P. — Lowry and Stoddart 1993: 67 (in part).

Type species. *Eucallisoma glandulosa* J.L. Barnard, 1961, original designation.

Included species. *Eucallisoma* includes one species: *E. glandulosa* J.L. Barnard, 1961.

Diagnosis. *Mandible lacinia mobilis a stemmed, distally expanded, irregularly cusped blade*. *Maxilla 1* inner plate with pappose setae along inner margin; *palp 2-articulate*. Maxilla 2 inner and outer plates subequal in length; inner plate broader than outer plate. *Maxilliped palp article 4 well developed*. *Gnathopod 1* coxa large, margins subparallel; *basis swollen, with glandular material*; dactylus reduced, simple. Pereopod 3 carpus compressed to short, about as long as wide. *Pereopod 4 with well-developed, subquadrate posteroventral lobe*.

Discussion. The removal of *E. barnardi* Lowry & Stoddart, 1993 to *Tayabasa* gen. n. leaves *Eucallisoma* as a monotypic taxon. Future deep-sea samples will hopefully uncover associated taxa that will provide a clearer picture of the relationships between these animals.

Eucallisoma glandulosa J.L. Barnard, 1961

Figures 19, 20

Eucallisoma glandulosa J.L. Barnard, 1961: 33, fig. 3. — Barnard and Karaman 1991: 484–485. — Lowry and Stoddart 1993: 67, 72. — Hendrycks and Conlan 2003: 232, fig. 7.

Type material. Holotype, ? male, 10 mm, ZMUC CRU-1720.

Type locality. Off Gabon, Africa (4°00'S, 8°25'E), 4020 m depth.

Depth range. 4020 m.

Distribution. *Gabon*: west of Nyanga Province.

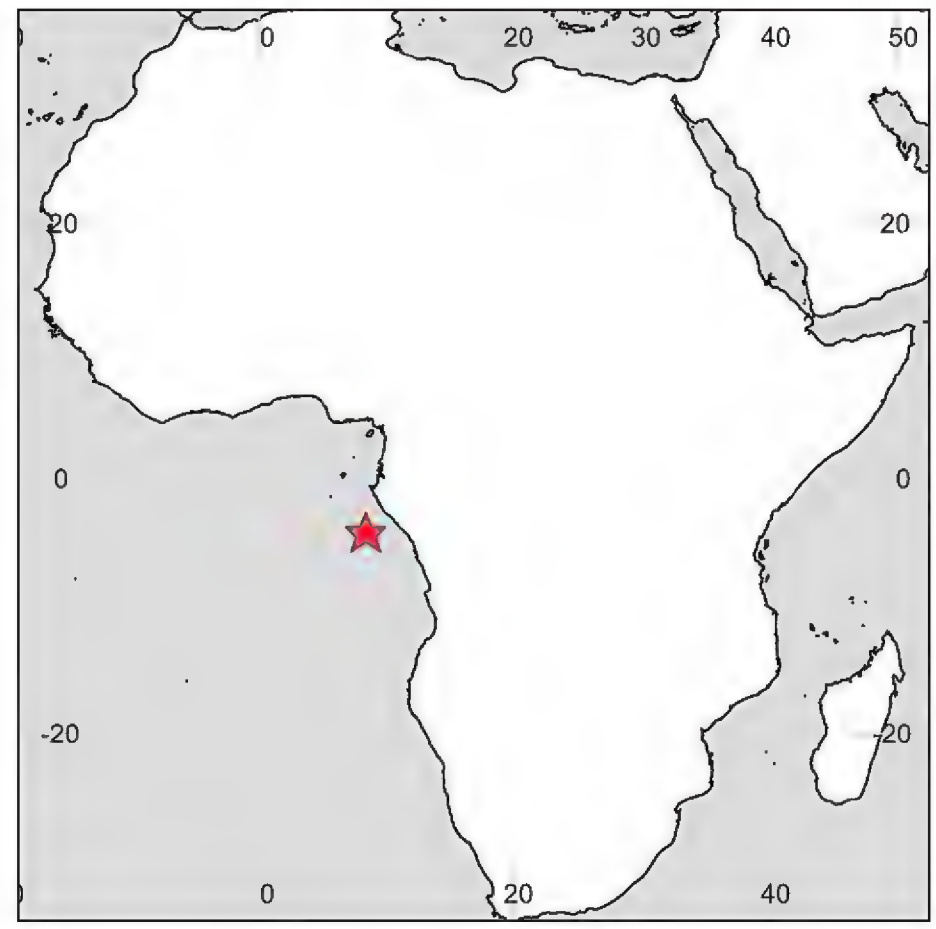

Figure 19. Distribution of *Eucallisoma glandulosa*.

Paracallisoma Chevreux, 1903

Paracallisoma Chevreux, 1903: 84. — Schellenberg 1926: 257. — Chevreux 1935: 39. — Gurjanova 1962: 308. — J.L. Barnard 1969: 305, key K. — Barnard and Karaman 1991: 454 (key), 510.
Scopelocheirus. — Barnard and Karaman 1991: 528 (in part).

Type species. *Paracallisoma alberti* Chevreux, 1903, original designation.

Included species. *Paracallisoma* includes seven species: *P. abyssi* Oldevig, 1959; *P. alberti* Chevreux, 1903; *P. coecum* (Holmes, 1908); *P. platepistomum* Andres, 1977; *P. spinipoda* Hendrycks & Conlan, 2003; *P. woolgoolga* sp. n.; *P. zivianii* sp. n.

Diagnostic description. *Mandible lacinia mobilis a stemmed, distally expanded, smooth or minutely serrate blade*. Maxilla 1 inner plate with pappose setae lining inner margin; palp 2-articulate. Maxilla 2 inner and outer plates subequal in width or inner plate slightly broader than outer plate, inner plate slightly shorter than or subequal in length to outer plate. Maxilliped palp article 4 well developed. Gnathopod 1 coxa large, margins subparallel or diverging distally; basis linear; dactylus small, simple, highly modified with apical tip. *Pereopod 3 carpus short to long, longer than wide*. *Pereopod 4 coxa with strongly-developed, subacutely produced posteroventral lobe*.

Discussion. In addition to the two new species described herein, Horton et al. (2013) record an additional five undescribed species of *Paracallisoma* from the North Atlantic Ridge, and Duffy et al. (2012) record two undescribed species from submarine canyons of the Iberian Peninsula. These records indicate that there is still a large knowledge gap in the diversity of deep-sea scopelocheirids.

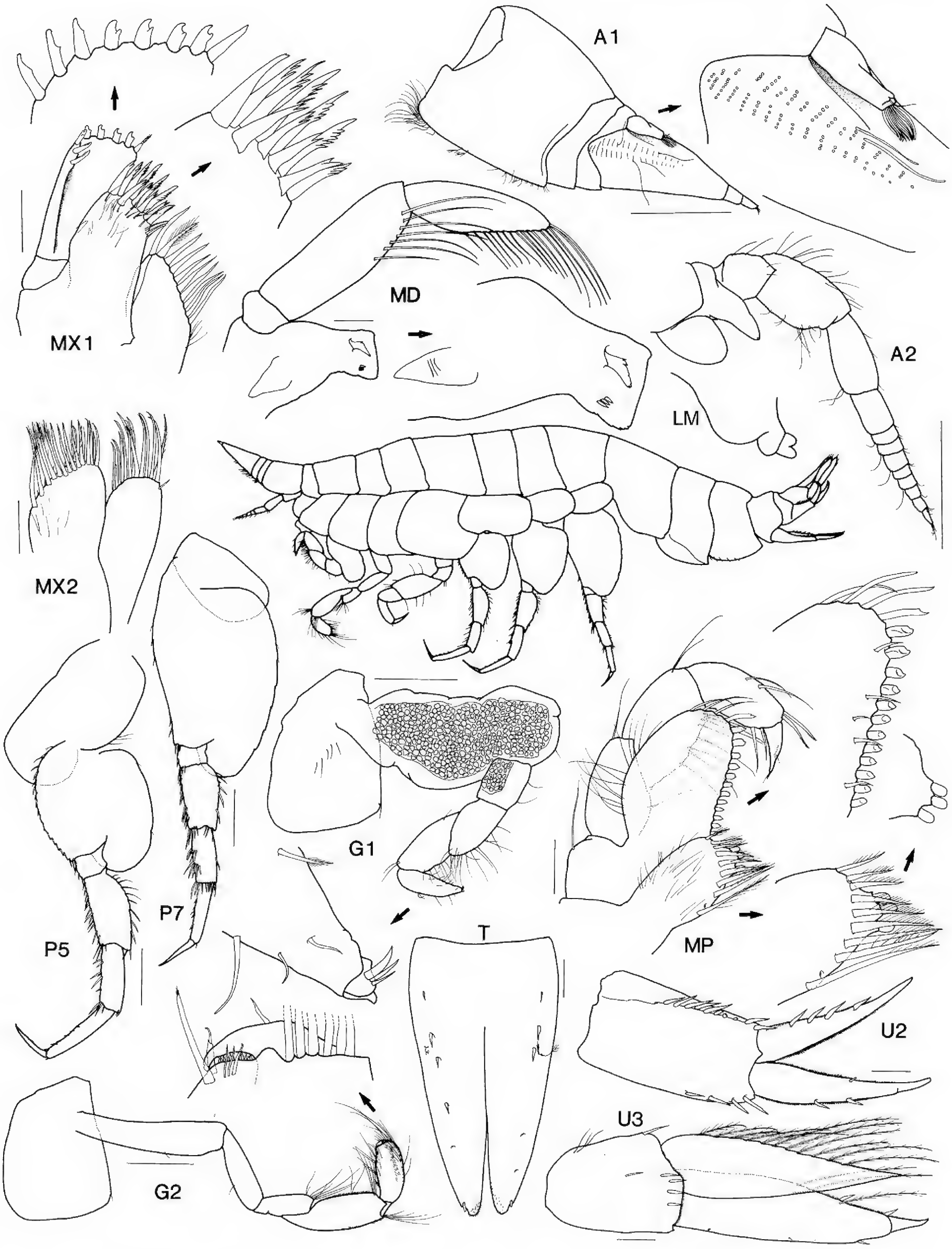

Figure 20. *Eucallisoma glandulosa* J.L. Barnard. Holotype, ?male, 10 mm, ZMUC CRU-1720, off Gabon, east Atlantic Ocean. Scales for antennae, gnathopods, pereopods represent 0.5 mm; remainder represent 0.1 mm.

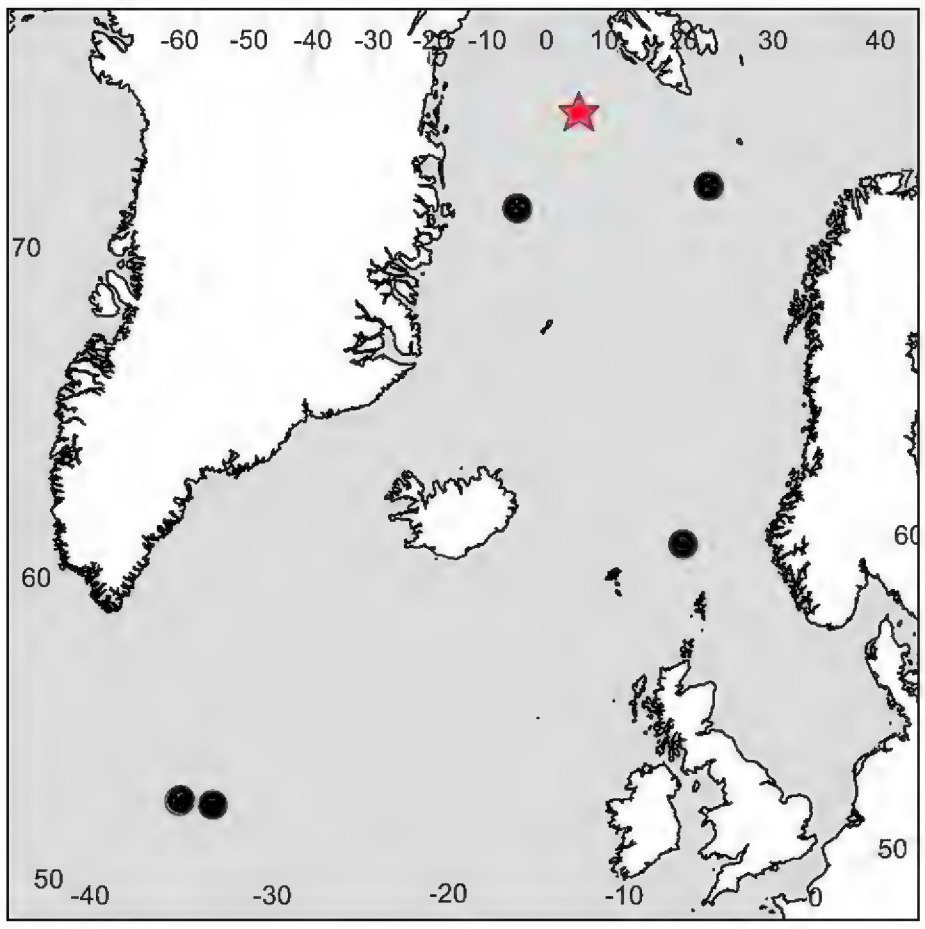

Figure 21. Distribution of *Paracallisoma abyssi* (Oldevig, 1959). Star indicates type locality.

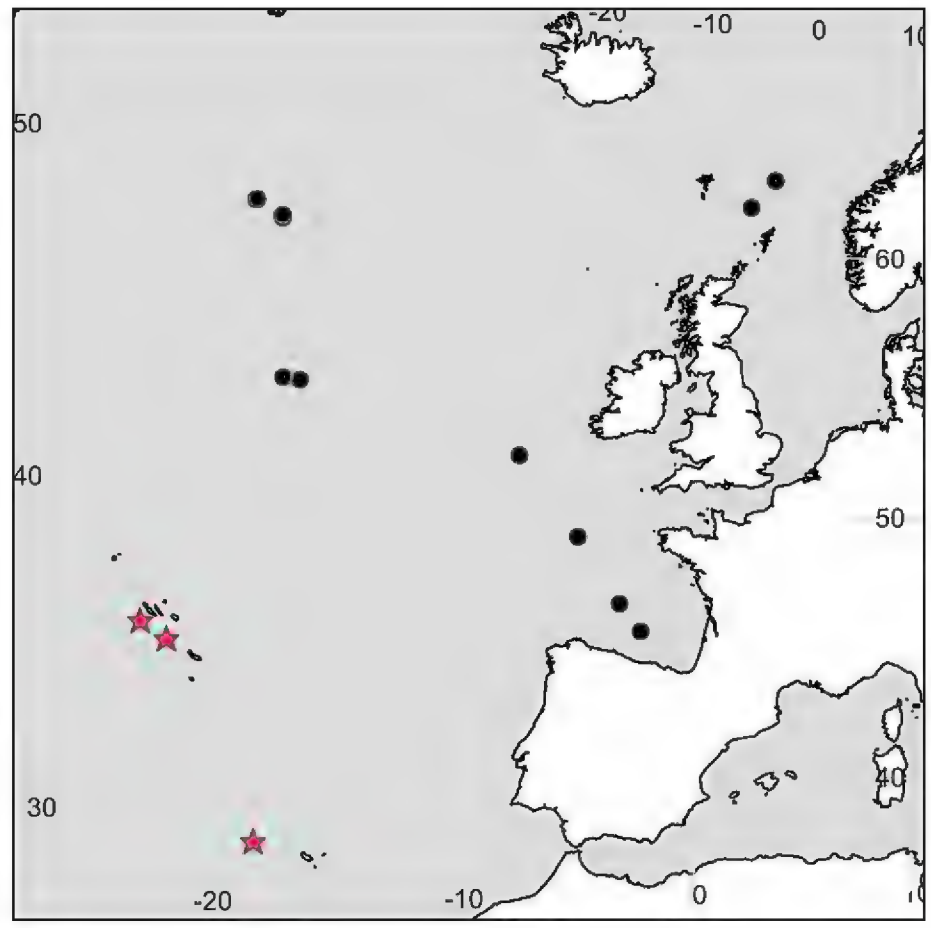

Figure 22. Distribution of *Paracallisoma alberti* Chevreux, 1903. Star indicates type locality.

Paracallisoma abyssi (Oldevig, 1959)

Figure 21

Scopelocheirus abyssi Oldevig, 1959: 16, figs 1–3. — Barnard and Karaman 1991: 528. — Vinogradov et al. 1996: 8. — Brandt 1997: 1540 (table 2).

Paracallisoma abyssi. — Horton 2006: 20, table 2. — Horton et al. 2013: 354.

Type material. Syntypes, (24 specimens, maximum length about 15 mm), Stockholm Museum.

Type locality. Swedish Deep (77°39'N, 1°17'E), 3200 m, *Biloculina* ooze, -1.4 °C.

Depth range. 1525–3200 m (Brandt 1997, Oldevig 1959).

Distribution. North Atlantic Ocean. Greenland Sea (Oldevig 1959, Brandt 1997); Norwegian Sea (Vinogradov et al. 1996); Faroe-Shetland Channel (Horton 2006); Mid-Atlantic Ridge (Horton et al. 2013).

Ecology. A scavenger, taken in baited traps (Vinogradov et al. 1996, Horton 2006, Horton et al. 2013).

Discussion. This is a poorly described and little-sampled species that was originally described in the genus *Scopelocheirus*. Horton (2006) removed it to *Paracallisoma*. Horton and Thurston (in prep.) have new material of this species and are in the process of re-describing it.

Paracallisoma alberti Chevreux, 1903

Figures 22, 23

Paracallisoma alberti Chevreux, 1903: 84, figs 2, 3. — Stebbing 1906: 719. — Chevreux 1935: 39, pl. 1, fig. 3, pl. 9, fig. 2, pl. 16, fig. 5. — Birstein and Vinogradov 1955: 223, 279 (in part). — Schellenberg 1955: 191 (in part). — J.L. Barnard 1958: 97 (list). — Belloc 1960: 4. — Lampitt et al. 1983: 76, table 1. — Desbruyères et al. 1985: 236, fig. 1, 237. — Thurston 1990: 266. — Barnard and Karaman 1991: 511. — Palerud and Vader 1991: 41. — Lopes et al. 1993: 209, table 1. — Dauvin and Bellan-Santini 2002: 316 (table 1). — Horton 2006: 20, table 2. — Horton Thurston and Duffy 2013: 355, table 2.

Not *Paracallisoma alberti*. — Schellenberg 1926a: 258, fig. 11. — Birstein and Vinogradov 1962: 34. — Lowry and Bullock 1976: 102. — De Broyer and Jażdżewski 1993: 73. (= *Paracallisoma* sp. De Broyer et al. 2007).

Not *Paracallisoma alberti*. — Birstein and Vinogradov 1958: 228. — Birstein and Vinogradov 1960: 176, fig. 5, 233, fig. 33. — Gurjanova 1962: 309, fig. 102. — Nagata 1963: 1. — Birstein and Vinogradov 1970: table 1, table 3. — Hatch 1983: 194, 195, table 3. — Nysewander 1983: 328, table 7. — Hatch 2013: 275. (= *P. coecum*).

Not *Paracallisoma alberti*. — Birstein and Vinogradov 1964: 161. (= *Paracallisoma* sp.)

Not *Paracallisoma* aff. *alberti* Treude et al., 2002: 1284, table 2. (= *Paracallisoma* sp.)

Type material. Syntypes: 1 female, 13 mm (stn 532); 3 females (stn 730); 5 males and 9 females (stn 792).

Type locality. Azores region (37°52'N, 24°42.75'W), trap, muddy bottom with *Globigerina*, 2178 m [*Prin-*

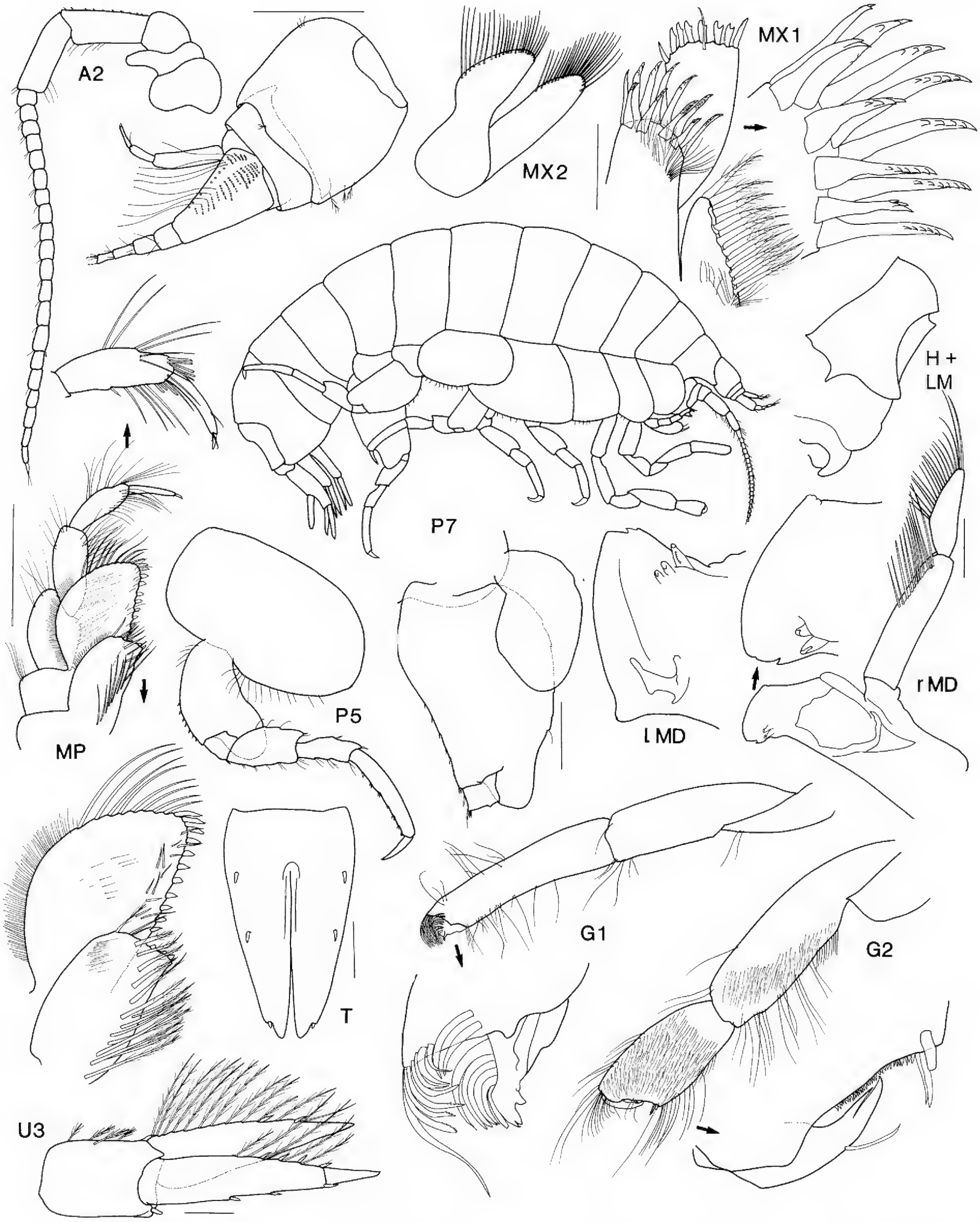

Figure 23. *Paracallisoma alberti* Chevreux, 1903. Syntype female, MOM, near Madeira, North Atlantic Ocean. Whole animal after Chevreux 1903; A2, MX2, P5 after Chevreux 1935. Scales for MD, MX1, U3, T represent 0.2 m; remainder represent 0.5 mm.

cesse-Alice stn 532]; Azores region (37°58'N, 26°13.25'W), trap, muddy sand, 2660 m [*Princesse-Alice* stn 730]; Madeira region (32°32.16'N, 17°04.42'W), trap, bottom of blackish grey mud and fine grained sand, 2480 m [*Princesse-Alice* stn 792]. The co-ordinates given here are based on those reported in Chevreux (1935) rather than in the original publication (Chevreux 1903), which used the Paris rather than the Greenwich meridian for calculating longitude.

Depth range. 1396–4780 m (Horton 2006, Chevreux 1935).

Distribution. North Atlantic Ocean. Porcupine Seabight (Lampitt et al. 1983); Mid Atlantic Ridge (Horton et al. 2013); Faroe-Shetland Channel (Horton 2006). *Portugal*. Azores and Madeira region (Chevreux 1903). *France*. Bay of Biscay (Chevreux 1935, Desbruyères et al. 1985).

Ecology. A scavenger, frequently taken in baited traps (Chevreux 1903, 1935, Horton 2006, Horton et al. 2013).

Discussion. The distribution of *Paracallisoma alberti* given here (Fig. 22) is much more limited than what has been reported in the literature. This follows Thurston (1990), who concluded that *P. alberti* is restricted to the north-east Atlantic, as material recorded in the literature as *P. alberti* from the Pacific Ocean was confirmed as or presumed to belong to *P. coecum* (Holmes, 1908). The identity of material from the Indian Ocean and Arabian Sea (Birstein and Vinogradov 1964, Treude et al. 2002) is unknown, but it is unlikely to be *P. alberti*. Material from the Southern Ocean appears to be closely related to *P. platepistomum* Andres, 1977 (Thurston 1990).

Paracallisoma coecum (Holmes, 1908)

Figure 24

Scopelocheirus coecus Holmes, 1908: 500, figs 10–12. — Shoemaker 1945: 186 (in part, part ?*P. platepistomum*). — J.L Barnard 1954: 54, figs 4, 5. — Gurjanova 1951: 241 (key).

Paracallisoma coecum. — Hurley 1963: 61, fig. 18. — Barnard and Karaman 1991: 511. — Thurston 2001: 685 (table 2).

Paracallisoma coecus. — J.L. Barnard 1958: 97 (list). — J.L. Barnard 1964: 319, fig. 3. — Brusca 1967: 384, 385, table 4. — Childress and Nygaard 1974: 228, table 1. — Childress 1975: 788 (table 1a). — Quetin et al. 1980: table 1. — Smith and Baldwin 1982: 292 (table 3). — Austin 1985: 601. — Vermeer and Devito 1988: 65, 67, table 2. — Ikeda 2013: 342 (table 1).

Paracallisoma alberti. — Birstein and Vinogradov 1955: 223, 279 (in part). — Birstein and Vinogradov 1958: 228. — Birstein and Vinogradov 1960: 176, fig. 5, 233, fig. 33. — Gurjanova 1962: 309, fig. 102. — Nagata 1963: 1. — Birstein and Vinogradov 1970: table 1, table 3. — Hatch 1983: 194, 195, table 3. — Nysewander 1983: 328, table 7. — Hatch 2013: 275.

Type material. Holotype, female, 20 mm, USNM 38538.

Type locality. Off San Clemente Island, California, United States, 1196–1287 m depth.

Depth range. 549–4023 m (Shoemaker 1945, Barnard 1964). Some depth records (e.g. 0–9000 m, Birstein and Vinogradov (1958)) are excluded from this range as exact depth of capture is unknown due to the sampling technique.

Distribution. *Pacific Ocean*: off San Clemente Island, California, United States (Holmes 1908); Pacific City, Oregon, United States (from the stomach of a duck) (Shoemaker 1945); San Nicolas Basin and off Santa Barbara Island, California, United States (Barnard 1954); outer Santa Barbara Passage, California, United States (Hurley 1963); off Kamchatka, Russia (Shoemaker 1945, Gurjanova 1962); Gulf of Alaska (Barnard 1964); Kuril-Kamchatka Trench (Birstein and Vinogradov 1958); near the Tenji Seamount, south-south-west of the Aleutian Trench (Birstein and Vinogradov 1958); near the Makarov Seamount (Birstein and Vinogradov 1960); Japan Trench (Nagata 1963).

Discussion. Schellenberg (1926) first considered *Paracallisoma coecum* to be a junior subjective synonym of *P. alberti*, a move that was accepted by many subsequent authors. However, Barnard (1964), and many more recent works (e.g. Thurston 1990, Barnard and Karaman 1991, Thurston et al. 2001) have again treated *P. coecum* as a valid species, a decision with which we agree. *Paracallisoma coecum* can be differentiated from *P. alberti* by following characters: gnathopod 1 coxa much longer than wide, margins slightly tapering distally (coxa slightly longer than wide, margins subparallel in *P. alberti*); gnathopod 1 propodus margins tapering distally (gnathopod 1 propodus margins subparallel in *P. alberti*); gnathopod 2 propodus subovate, palm transverse to slightly acute, dactylus fitting palm (gnathopod 2 propodus diverging distally, palm acute, dactylus shorter than palm in *P. alberti*).

Due to its taxonomic history, many records of *P. coecum* have erroneously been attributed to *P. alberti*. Pacific Ocean material reported as *P. alberti* has now been confirmed as or is presumed to be *P. coecum* (Thurston 1990). According to Thurston (1990), the record of Shoemaker (1945) of *P. coecum* (as *Scopelocheirus coecus*) from Bermuda is referable to *P. platepistomum* Andres, 1977. Indian Ocean material recorded as *P. alberti* is unconfirmed.

Paracallisoma platepistomum Andres, 1977

Figure 25

Paracallisoma platepistomum Andres, 1977: 61, figs 3, 4. — Andres and Lott 1977: 62. — Barnard and Karaman 1991: 511.

Scopelocheirus coecus. — Shoemaker 1945: 186 (in part, part *Paracallisoma coecum*).

Type material. Holotype, female, 28 mm, ZMH K 30455.

Type locality. Iberian deep-sea, *Meteor* Station 3/24 (42°26.8–40.9'N, 14°49.0–49.2'W), 5325 m depth

Depth range. 1463(?)–5325 m (Shoemaker 1945, Andres 1977).

Distribution. *North Atlantic Ocean*: Iberian Basin (Andres 1977); off Bermuda (Shoemaker 1945).

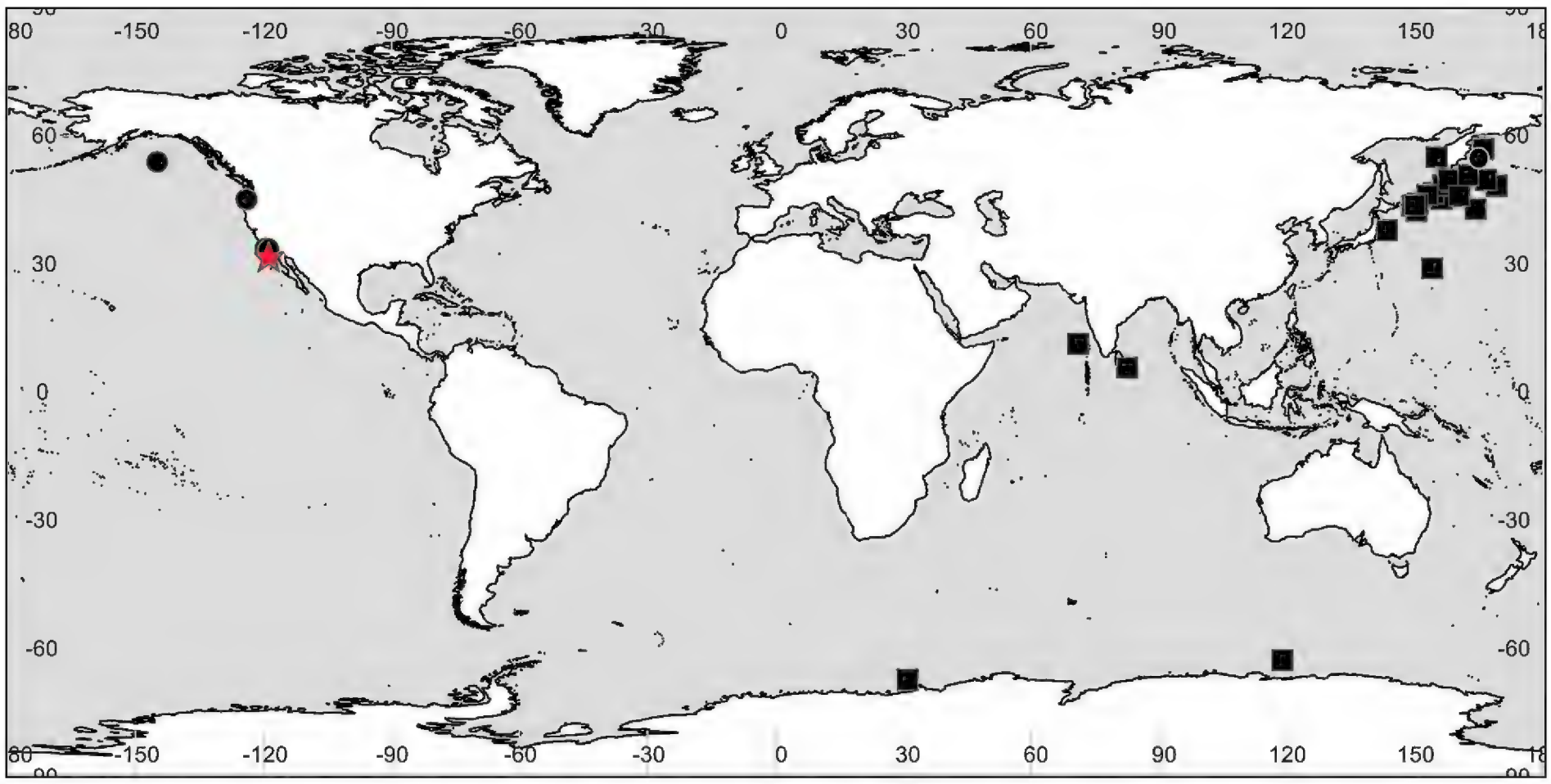

Figure 24. Distribution of *Paracallisoma coecum* (Holmes, 1908). Circles (●) represent records of *Paracallisoma coecum*; squares (■) represent misidentifications of *P. alberti* that may represent *P. coecum* or another species. Star indicates type locality.

Paracallisoma spinipoda Hendrycks & Conlan, 2003

Figure 26

Paracallisoma spinipoda Hendrycks & Conlan, 2003: 2322, figs 8, 9.

Type material. Holotype, male, 10 mm, CMNC 2002-0029. Paratype: juvenile, 5.0 mm, CMNC 2002-0030.

Type locality. North-east Pacific off Point Conception, California, United States (34°47.94'N, 123°03.80'W), 3450 m depth.

Depth range. 3450–4000 m

Distribution. *United States*: North-east Pacific off Point Conception, California (Hendrycks and Conlan 2003).

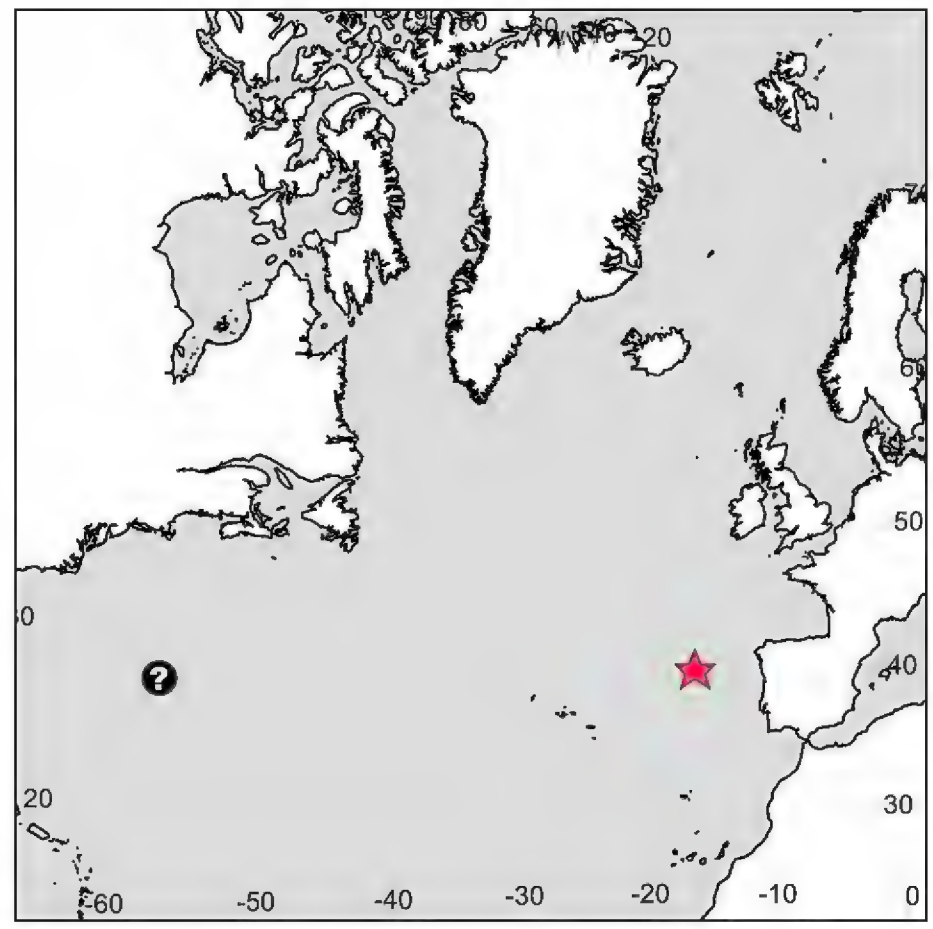

Figure 25. Distribution of *Paracallisoma platepistomum* Andres, 1977. Star indicates type locality, question mark indicates possible misidentification of *Scopelocheirus coecus* by Shoemaker (1945).

Paracallisoma woolgoolga sp. n.

http://zoobank.org/B429CB96-1624-4FF2-AB89-239C9FE45719

Figures 27–30

Type material. Holotype, female, 10.0 mm, AM P.69088, north-east of Coffs Harbour, New South Wales, Australia (30°10.88'S, 153°32.22'E), 1000 m, baited trap, 12–13 August 1993, coll. P.B. Berents, R.T. Springthorpe & W. Vader, MV *Cheryl Lee* [NSW-877]. Paratypes: 1 male, 7.5 mm, AM P.69089; many specimens, 7.0–9.3 mm, AM P.69090, with same collection details as holotype.

Other Australian material examined. *New South Wales:* 564 specimens, AM P.48095, [NSW-862]; 175 specimens, AM P.48121, [NSW-863], north-east of Coffs Harbour (30°10.93'S, 153°32.26'E), 963 m, baited trap, 11–12 August 1994, coll. P.B. Berents, R.T. Springthorpe & W. Vader, MV *Cheryl Lee*. 6 specimens, AM P.50024, north-east of Coffs Harbour (30°10.93'S, 153°32.26'E), 1000 m, baited trap, 8–9 September 1994, coll. J.K. Lowry & K. Dempsey, MV *Carrie Ann* [NSW-999]. 26 specimens, AM P.50067, [NSW-1021]; 2 specimens, AM P.50082, [NSW-1022], north-east of Coffs Harbour (30°10.93'S, 153°32.26'E), 1000 m, baited trap, 9–10

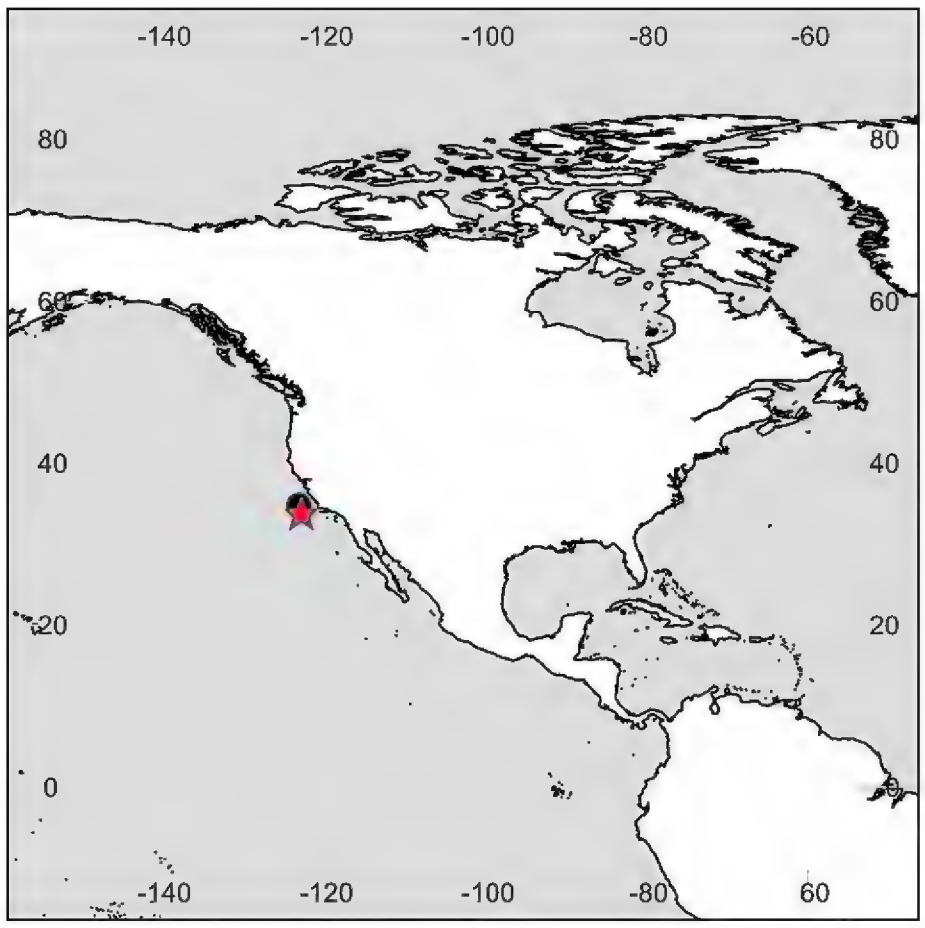

Figure 26. Distribution of *Paracallisoma spinipoda* Hendrycks & Conlan, 2003. Star indicates type locality.

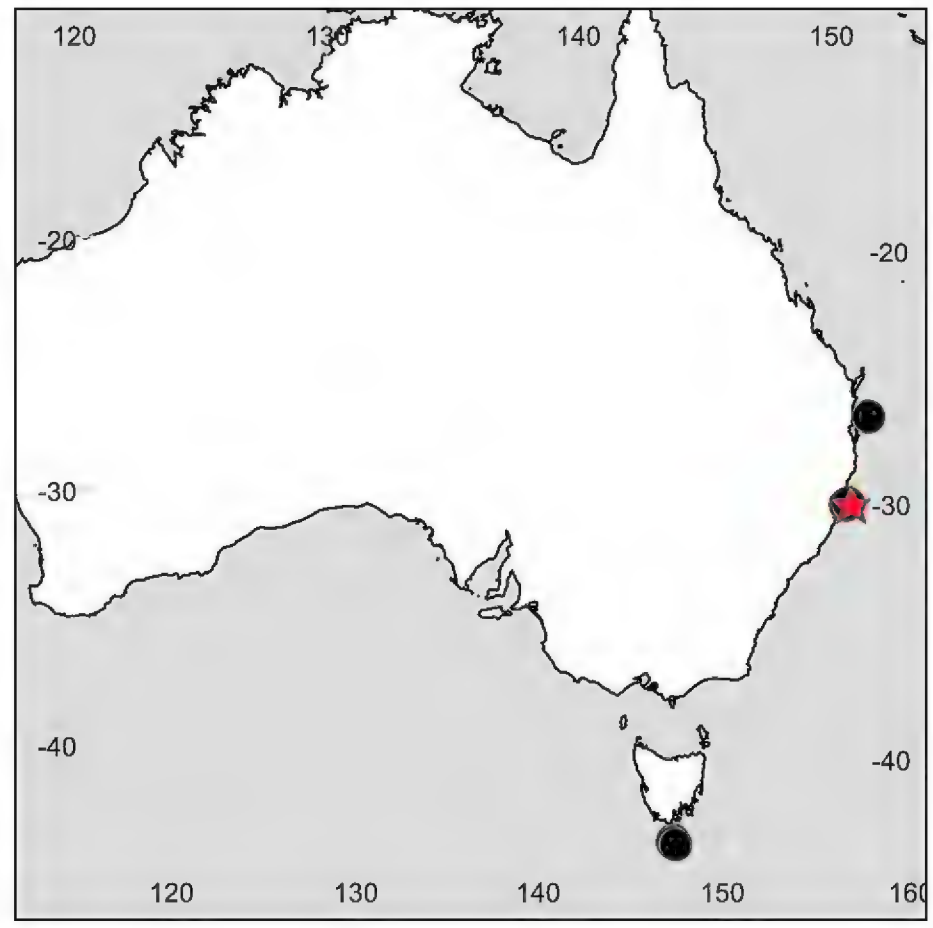

Figure 27. Distribution of *Paracallisoma woolgoolga* sp. n. Star indicates type locality.

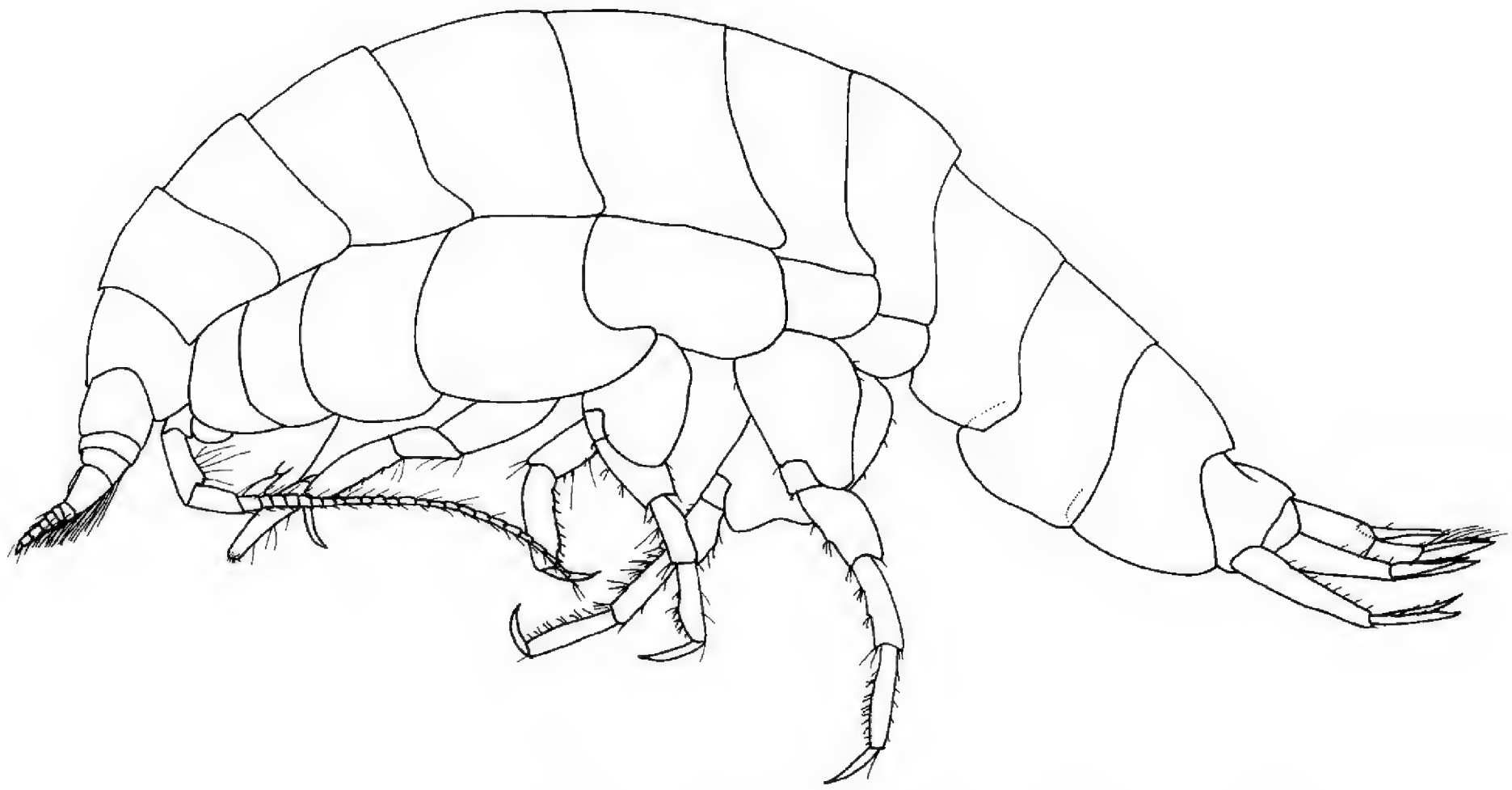

Figure 28. *Paracallisoma woolgoolga* sp. n. Holotype female, 10.0 mm, AM P.69088, from north-east of Coffs Harbour, New South Wales, Australia.

September 1994, coll. J.K. Lowry & K. Dempsey, MV *Carrie Ann*. 1 specimen, AM P.51126, north-east of Coffs Harbour (30°14.83'S, 153°27.55'E), 200 m, baited trap, 11–12 August 1993, coll. P.B. Berents, R.T. Springthorpe & W. Vader, MV *Cheryl Lee* [NSW-869]. 480 specimens, AM P.49808; 237 specimens, AM P.49827; 17 specimens, AM P.52658, north-east of Coffs Harbour (30°10.88'S, 153°32.22'E), 1000 m, baited trap, 12–13 August 1993, coll. P.B. Berents, R.T. Springthorpe & W. Vader, MV *Cheryl Lee* [NSW-876].

Queensland: 3 specimens, AM P.47887, due east of Mooloolaba (26°36.23'S, 153°50.23'E), 1006 m, baited trap, 2–3 August 1994, coll. J.K. Lowry & K. Dempsey, MV *Capricorn I* [QLD-1140].

Tasmania: 20 specimens, AM P.73706, Main Pedra Hill, 76.8km south-south-east of South East Cape (44°15.6'S, 147°07.8'E), 1312 m, baited trap, 21–24 January 1997, coll. CSIRO party, FRV *Southern Surveyor* [SS01/97/08]. Many specimens, AM P.73707, Hill U, 82.8 km south-south-east of South East Cape

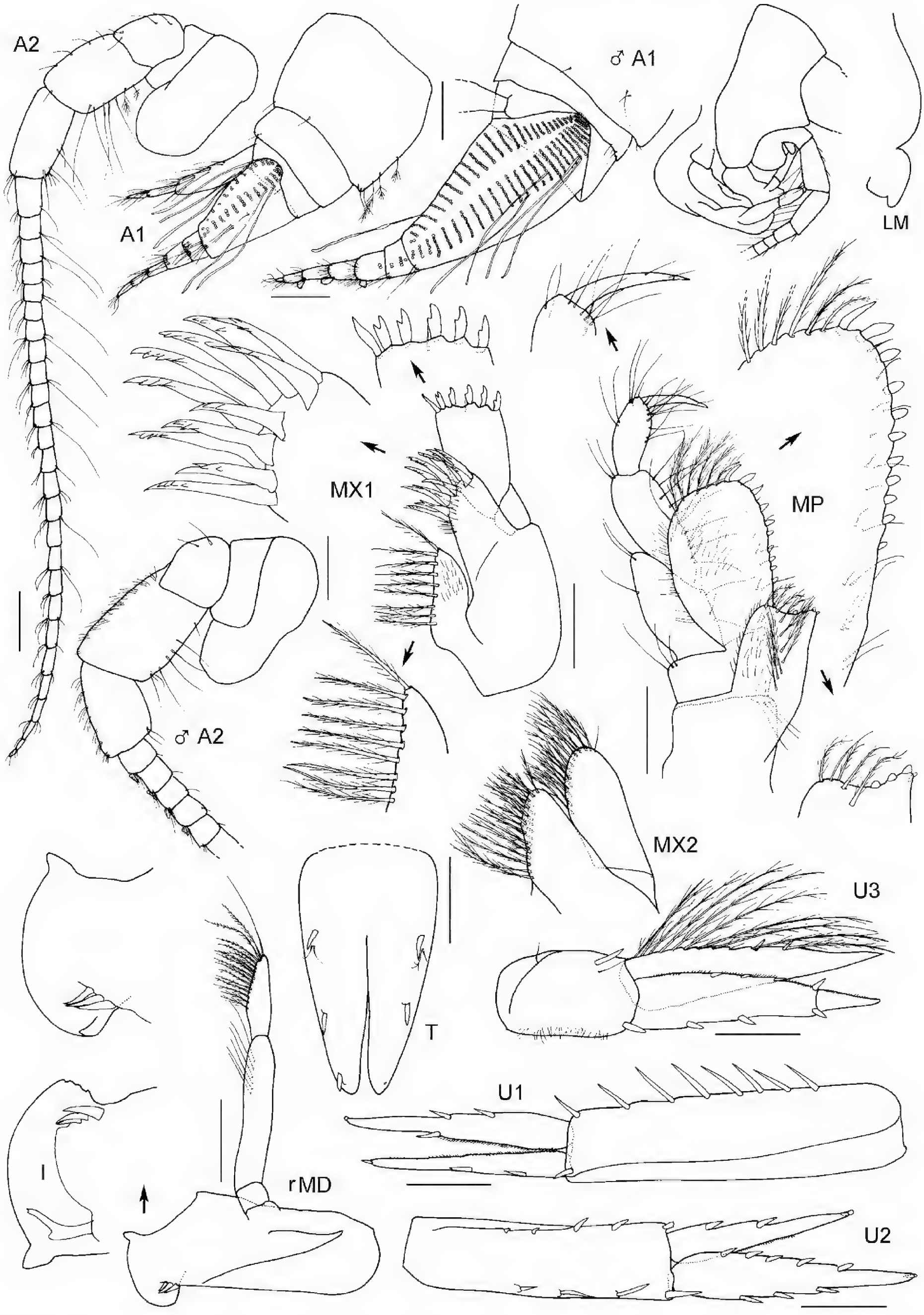

Figure 29. *Paracallisoma woolgoolga* sp. n. Holotype female, 10.0 mm, AM P.69088; paratype male, 7.5 mm, AM P.69089, from north-east of Coffs Harbour, New South Wales, Australia. Scales represent 0.2 mm.

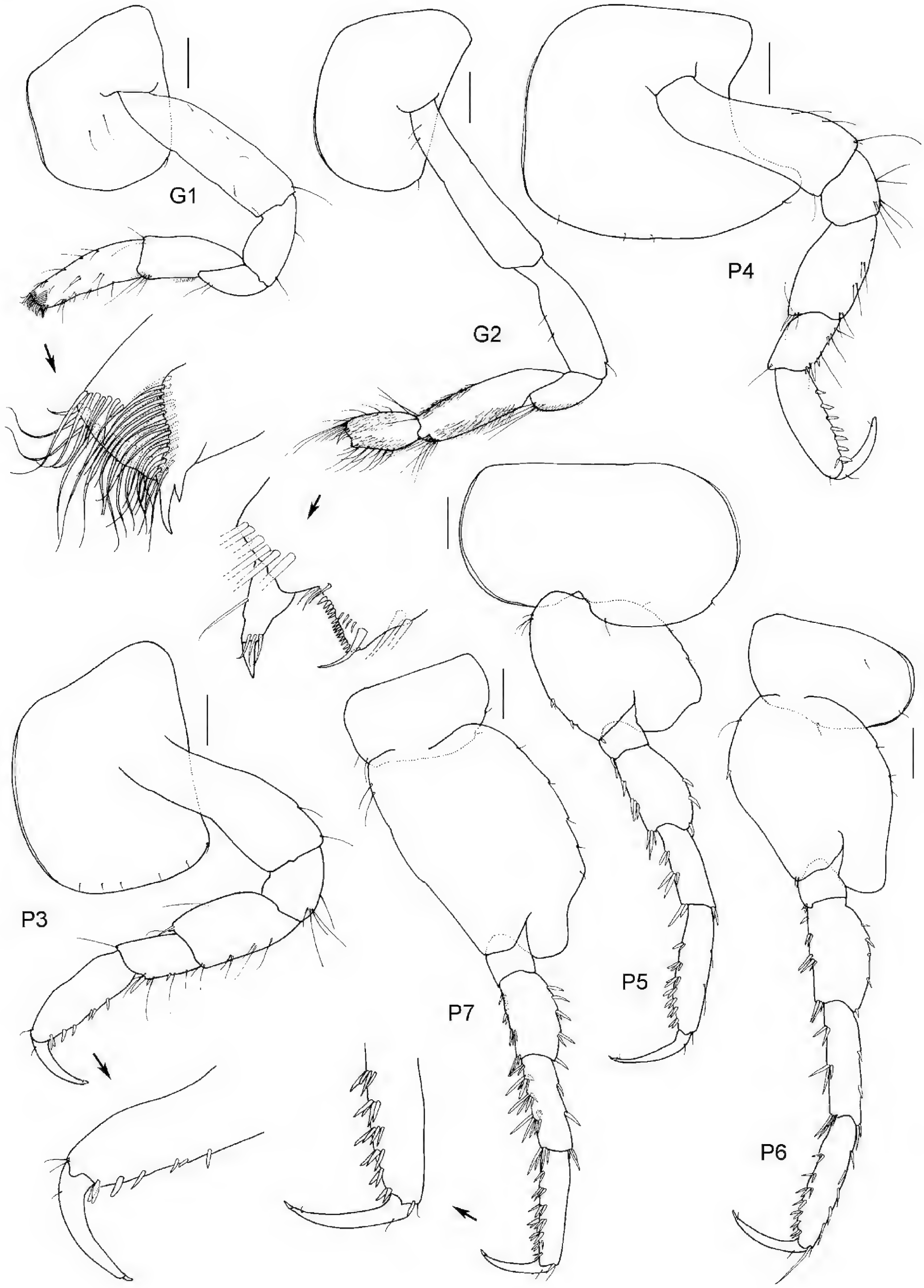

Figure 30. *Paracallisoma woolgoolga* sp. n. Holotype female, 10.0 mm, AM P.69088, from north-east of Coffs Harbour, New South Wales, Australia. Scales represent 0.2 mm.

(44°19.2'S, 147°07.2'E), 1083–1448 m, baited trap, 27–28 January 1997, coll. CSIRO party, FRV *Southern Surveyor* [SS01/97/41]. 132 specimens, AM P.73708, Hill D1, south-south-east of South East Cape (44°23.4'S, 147°16.2'E), 1942 m, baited trap, 31 January 1997, coll. CSIRO party, FRV *Southern Surveyor* [SS01/97/65].

Diagnosis. Gnathopod 1 coxa margins subparallel. Gnathopod 2 propodus palm transverse, with straight, minutely serrate margin; dactylus reaching corner of palm. Pereopod 5 basis as long as broad, broadly expanded posteriorly, slightly excavate posterodistally. Epimeron 3 posteroventral corner narrowly rounded. Telson moderately cleft.

Description. Based on holotype female, 10.0 mm, AM P.69088.

Lateral cephalic lobe large, triangular, apically subacute. Rostrum absent. Eyes apparently absent. Antenna 1 short; accessory flagellum long, 3-articulate, forming cap covering callynophore; primary flagellum 6-articulate, with strong 2-field callynophore; calceoli absent. Antenna 2 longer than antenna 1; peduncle without brush setae, article 1 greatly enlarged, not covering article 2; flagellum 26-articulate, calceoli absent.

Labrum, epistome slightly produced, rounded; upper lip slightly produced, straight. Mandible incisor with slightly convex margins; lacinia mobilis a stemmed, distally expanded, smooth blade; molar flap-like; palp attached midway, article 2 slender. Maxilla 1 palp 2-articulate. Maxilla 2 inner plate shorter than outer plate; outer plate without long, distally barbed slender setae. Maxilliped outer plate small; palp large, 4-articulate.

Gnathopods 1–4 coxae without setal fringe along ventral margin. Gnathopod 1 coxa large, about as long as coxa 2, margins subparallel; basis slender; ischium long, length 2.1 × width; carpus long, length × 2.9 width, subequal in length to propodus; propodus margins slightly tapering distally; anterodistal margin with row of long, slender setae, without robust setae just above dactylus; dactylus small, simple, well developed, posterior margin without setae, with one cusp along posterior margin. Gnathopod 2 minutely subchelate; carpus long, length 3.7 × width; propodus short, length 1.7 × width, palm transverse, with straight, minutely serrate margin; dactylus reaching corner of palm. Pereopod 3 weakly prehensile; propodus without posterodistal locking setae; dactylus short, slender. Pereopod 4 weakly prehensile; coxa wider than deep, with subacutely produced posteroventral lobe; propodus without posterodistal locking setae; dactylus short, slender. Pereopod 5 weakly prehensile; coxa equilobate; basis as long as broad, broadly expanded posteriorly, slightly excavate posterodistally, without row of long pappose setae medially; dactylus short, slender. Pereopod 6 weakly prehensile; basis expanded posteroproximally, posterior margin tapering distally, with very weakly excavate posterodistal margin; dactylus short, slender. Pereopod 7 weakly prehensile; basis expanded posteriorly, slightly rounded proximally, minutely crenate, posteroventral corner excavate; propodus without anterodistal locking setae; dactylus short, slender.

Epimeron 1 anteroventral corner narrowly rounded. Epimeron 3 posteroventral corner produced, narrowly rounded. Urosomite 1 with anterodorsal notch and rounded boss. Uropod 1 peduncle 1.5 × rami length; rami subequal in length. Uropod 2 rami inner ramus slightly shorter than outer ramus. Uropod 3 peduncle short; rami lanceolate, subequal in length, outer ramus 2-articulate, with plumose setae. Telson longer than broad, length 2.3 × breadth, moderately cleft (to 64%).

Sexually dimorphic characters. Based on paratype male, 7.5 mm, AM P.69089. Antenna 1 flagellum 7-articulate, with strong 2-field callynophore (stronger than in female); calceoli present. Antenna 2 flagellum 35-articulate, calceoli present.

Etymology. Named for Woolgoolga, a town west of the type locality on the coast of New South Wales; used as a noun in apposition.

Distribution. *Australia*: east of Mooloolaba, Queensland, to south of Tasmania.

Ecology. A scavenger taken in baited traps.

Discussion. *Paracallisoma woolgoolga* sp. n. is morphologically very close to *P. spinipoda*. It can be distinguished from that species by the gnathopod 2 palm (slightly concave in *P. spinipoda*, straight in *P. woollgoolga*); the shape of the pereopod 5 basis (evenly rounded in *P. spinipoda*, with a slight excavation along the posteroventral margin in *P. woolgoolga*); and the shape of the epimeron 2 posteroventral corner (producing a small spine in *P. spinipoda*, subquadrate in *P. woolgoolga*). In addition the pereopod 6 basis is much less distinctly excavate posteriorly in *P. woolgoolga* compared with that of *P. spinipoda*.

Paracallisoma zivianii sp. n.

http://zoobank.org/2DA4860F-478E-4597-B2D6-9E68702B634A

Figures 31–34

Type material. Holotype, male, 12.0 mm, AM P.69091, east of Flynn Reef, Queensland, Australia (16°37.82'S, 146°23.08'E), 1000 m, baited trap, 7–8 June 1993, coll. J.K. Lowry, P. Freewater & W. Vader, RV *Sunbird* [QLD-950/SEAS]. Paratype, 1 specimen, 0.8 mm, AM P.69092, east of Flynn Reef, Queensland, Australia (16°37.82'S, 146°23.08'E), 1000 m, baited trap, 6–7 June 1993, coll. J.K. Lowry, P. Freewater & W. Vader, RV *Sunbird* [QLD-931/SEAS].

Other Australian material examined. *New South Wales:* 3 specimens, AM P.48103, [NSW-862]; 4 spec-

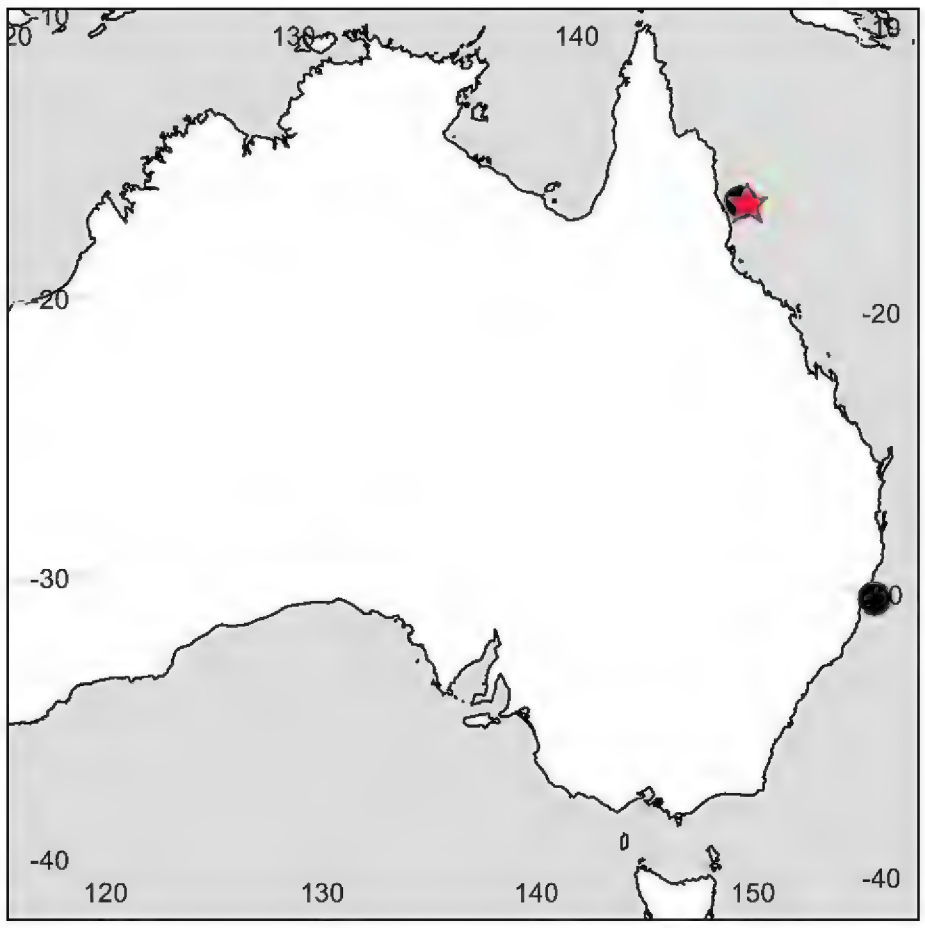

Figure 31. Distribution of *Paracallisoma zivianii* sp. n. Star indicates type locality.

imens, AM P.48127, [NSW-863] north-east of Coffs Harbour (30°10.93'S, 153°32.26'E), 963 m, baited trap, 11–12 August 1993, coll. P.B. Berents, R.T. Springthorpe & W. Vader, MV *Cheryl Lee*. 1 specimen, AM P.49817, [NSW-876]; 4 specimens, AM P.49831, north-east of Coffs Harbour (30°10.89'S, 153°32.22'E), 1000 m, baited trap, 12–13 August 1993, coll. P.B. Berents, R.T. Springthorpe & W. Vader, MV *Cheryl Lee* [NSW-877].

Queensland: 6 specimens, AM P.50236, [QLD-931/SEAS]; 3 specimens, AM P.50245, [QLD-932/SEAS] east of Flynn Reef (16°37.82'S, 146°23.08'E), 1000 m, baited trap, 6–7 June 1993, coll. J.K. Lowry, P. Freewater & W. Vader, RV *Sunbird*.

Diagnosis. Gnathopod 1 coxa margins subparallel. Gnathopod 2 propodus palm transverse, with slightly concave, minutely serrate margin; dactylus reaching corner of palm. Pereopod 5 basis much longer than broad; basis slightly to moderately expanded posteriorly, posterior margin straight. Epimeron 3 posteroventral corner produced into a weak spine. Telson deeply cleft.

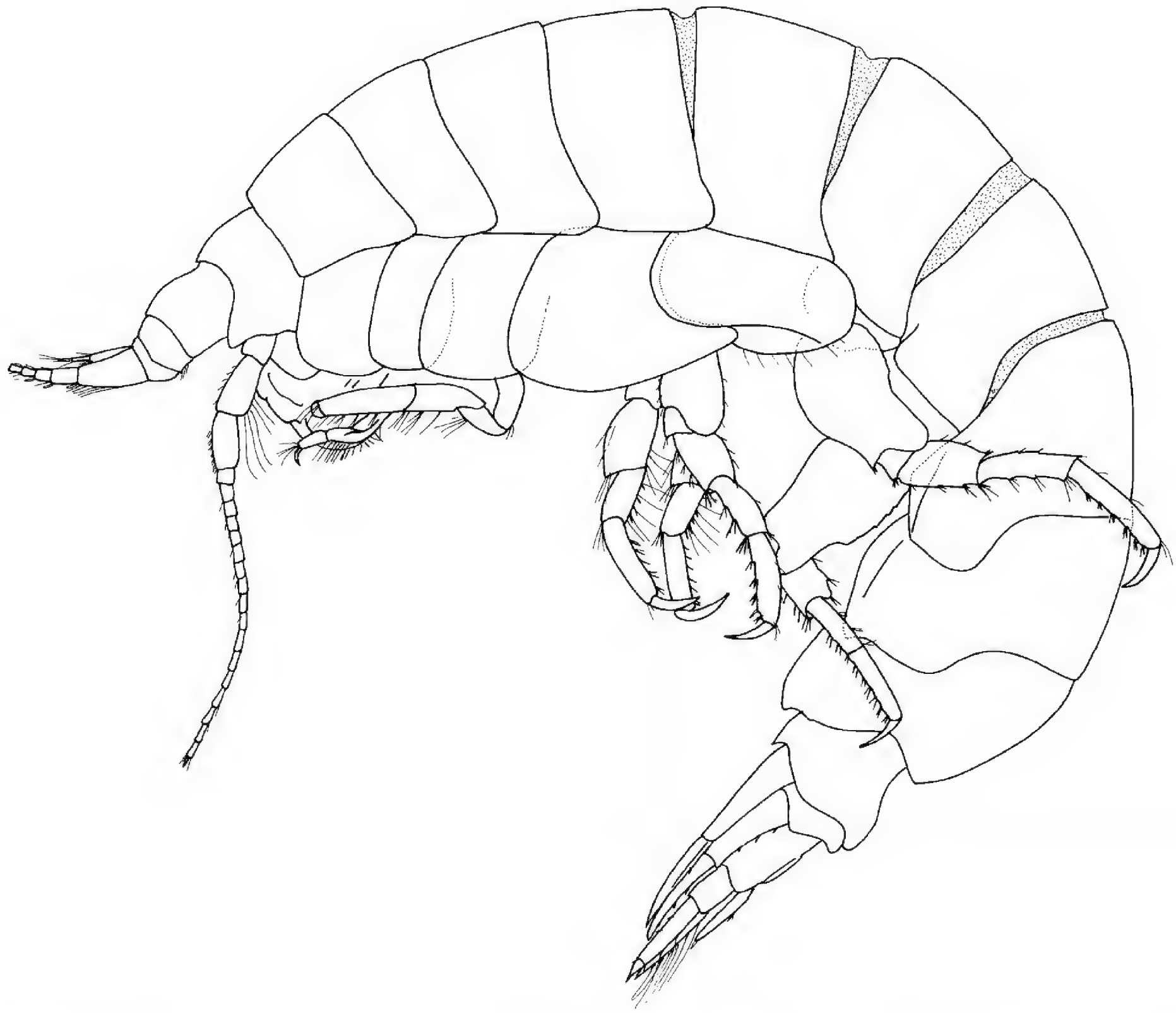

Figure 32. *Paracallisoma zivianii* sp. n. Holotype male, 12.0 mm, AM P.69091, from east of Flynn Reef, Queensland, Australia.

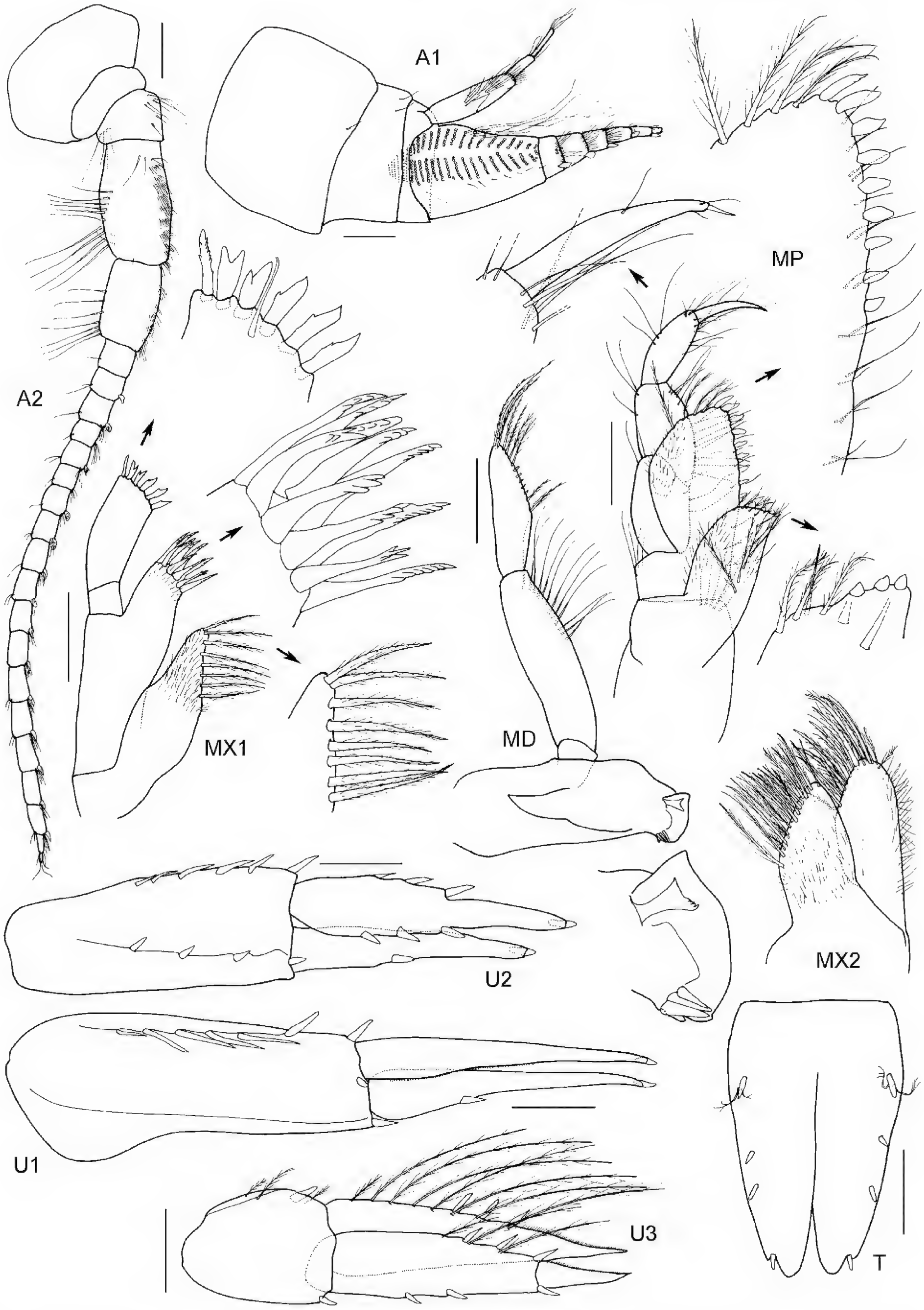

Figure 33. *Paracallisoma zivianii* sp. n. Holotype male, 12.0 mm, AM P.69091, from east of Flynn Reef, Queensland, Australia. Scales represent 0.2 mm.

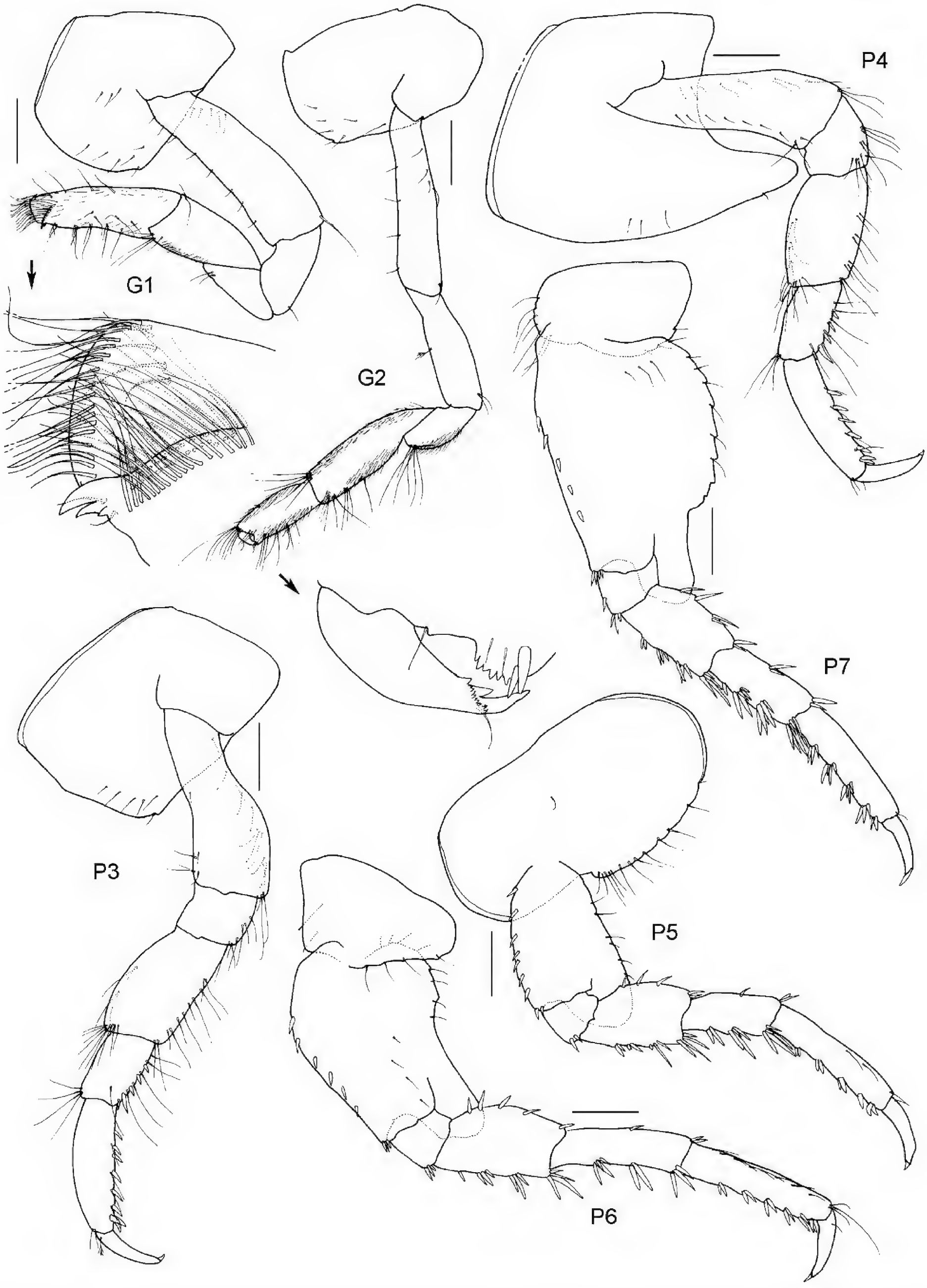

Figure 34. *Paracallisoma zivianii* sp. n. Holotype male, 12.0 mm, AM P.69091, from east of Flynn Reef, Queensland, Australia. Scales represent 0.2 mm.

Description. Based on holotype, male, 12.0 mm, AM P.69091.

Lateral cephalic lobe large, down-turned, narrowly rounded apically. Rostrum absent. Eyes apparently absent. Antenna 1 short; accessory flagellum long, 3-articulate, forming cap covering callynophore; primary flagellum 7-articulate, with strong 2-field callynophore; calceoli present. Antenna 2 longer than antenna 1; peduncle with weak brush setae, article 1 greatly enlarged, not covering article 2; flagellum 19-articulate, calceoli present.

Labrum, epistome slightly produced, rounded; upper lip slightly produced, straight. Mandible incisor with slightly convex margins; lacinia mobilis a stemmed, distally expanded, irregularly cusped blade; molar flap-like; palp attached midway, article 2 slender. Maxilla 1 palp 2-articulate. Maxilla 2 inner plate slightly shorter than outer plate; outer plate without long, distally barbed slender setae. Maxilliped outer plate small; palp large, 4-articulate.

Gnathopods 1–4 coxae without setal fringe along ventral margin. Gnathopod 1 coxa large, about as long as coxa 2, margins subparallel; basis slender; ischium long, length 2.2 × width; carpus long, length × 2.0 width, shorter than propodus; propodus margins slightly tapering distally; anterodistal margin with row of long, slender setae, without robust setae just above dactylus; dactylus small, simple, well developed, posterior margin without setae, with two cusps along posterior margin. Gnathopod 2 minutely subchelate; carpus long, length 3.4 × width; propodus long, length 2.5 × width, palm transverse, with slightly concave, minutely serrate margin; dactylus reaching corner of palm. Pereopod 3 weakly prehensile; propodus without posterodistal locking setae; dactylus short, slender. Pereopod 4 weakly prehensile; coxa wider than deep, with subacutely produced posteroventral lobe; propodus without posterodistal locking setae; dactylus short, slender. Pereopod 5 simple; coxa equilobate; basis much longer than broad; basis slightly to moderately expanded posteriorly, posterior margin straight, posteroventral lobe moderately broadened, extending beyond ischium, without row of long pappose setae medially; dactylus short, slender. Pereopod 6 simple; basis expanded posteroproximally, posterior margin tapering distally, with excavate posteroproximal margin, with rounded, moderately broadened posteroventral lobe, produced into merus; dactylus short, slender. Pereopod 7 simple; basis expanded posteriorly, slightly rounded proximally, minutely crenate, posteroventral corner excavate; propodus without anterodistal locking setae; dactylus short, slender.

Epimeron 1 anteroventral corner rounded. Epimeron 3 posteroventral corner produced into a weak spine. Urosomite 1 with dorsally smooth. Uropod 1 peduncle 1.2 × rami length; rami subequal in length. Uropod 2 rami inner ramus slightly shorter than outer ramus. Uropod 3 peduncle short; rami lanceolate, subequal in length, outer ramus 2-articulate, with plumose setae. Telson longer than broad, length 1.5 × breadth, deeply cleft (to 75%).

Etymology. The species is named for Bert Ziviani, skipper of the RV *Sunbird*.

Distribution. *Australia*: east of Flynn Reef, Queensland, to north-east of Coffs Harbour, New South Wales.

Ecology. A scavenger, taken in baited traps.

Discussion. With its strongly developed pereopod 4 posteroventral lobe and relatively narrow and posterodistally lobate pereopod 5 basis, this species is most similar to *P. alberti*, *P. platepistomum*, and *P. coecum*. It can be differentiated from the latter two species by the shape of the gnathopod 1 coxa, which is short with subparallel margins (longer than broad and tapering distally in *P. platepistomum* and *P. coecum*) and the shape of the pereopod 7 basis (more distinctly excavate posteriorly in *P. zivianii* sp. n.). It differs from *P. alberti* in the shape of the gnathopod 2 palm, which is transverse, and the dactylus, which fits the palm (palm acute, dactylus distinctly shorter than the palm in *P. alberti*).

Scopelocheiropsis Schellenberg, 1926

Scopelocheiropsis Schellenberg, 1926a: 260. — Schellenberg 1942: 110. — J.L. Barnard 1969: 305, key K, 361. — Barnard and Karaman 1991: 527, 434 (key I).

Bathycallisoma. — Ledoyer 1986: 733 (in part, part *Bathycallisoma*).

Type species. *Scopelocheiropsis abyssalis* Schellenberg, 1926, monotypy.

Included species. *Scopelocheiropsis* includes three species: *S. abyssalis* Schellenberg, 1926; *S. armata* (Ledoyer, 1986), comb. n.; *S. sublittoralis* Vinogradov, 2004.

Diagnostic description. *Mandible lacinia mobilis a stemmed, distally expanded, smooth blade*. Maxilla 1 inner plate with pappose setae lining inner margin; palp 2-articulate. Maxilla 2 inner and outer plates subequal in width, inner plate slightly shorter than outer. Maxilliped palp article 4 reduced or well developed. Gnathopod 1 coxa large, margins diverging distally; basis slender, linear; dactylus small, simple, highly modified with apical tip. *Pereopod 3 carpus compressed, wider than long*. Pereopod 4 coxa with weakly-developed, subacutely produced posteroventral lobe.

Discussion. *Scopelocheiropsis* has some variable characters, most importantly the absence of a molar in *S. sublitoralis* (present in the both *S. abyssalis* and *S. armata*), and the blunt, reduced maxilliped palp article 4 in *S. abyssalis* (well-developed in the other two species). Nevertheless, the distinctively compressed carpus of pereopods 3 and 4, as well as the stemmed and distally expanded lacinia mobilis are strong diagnostic characters which separate these taxa from other groups.

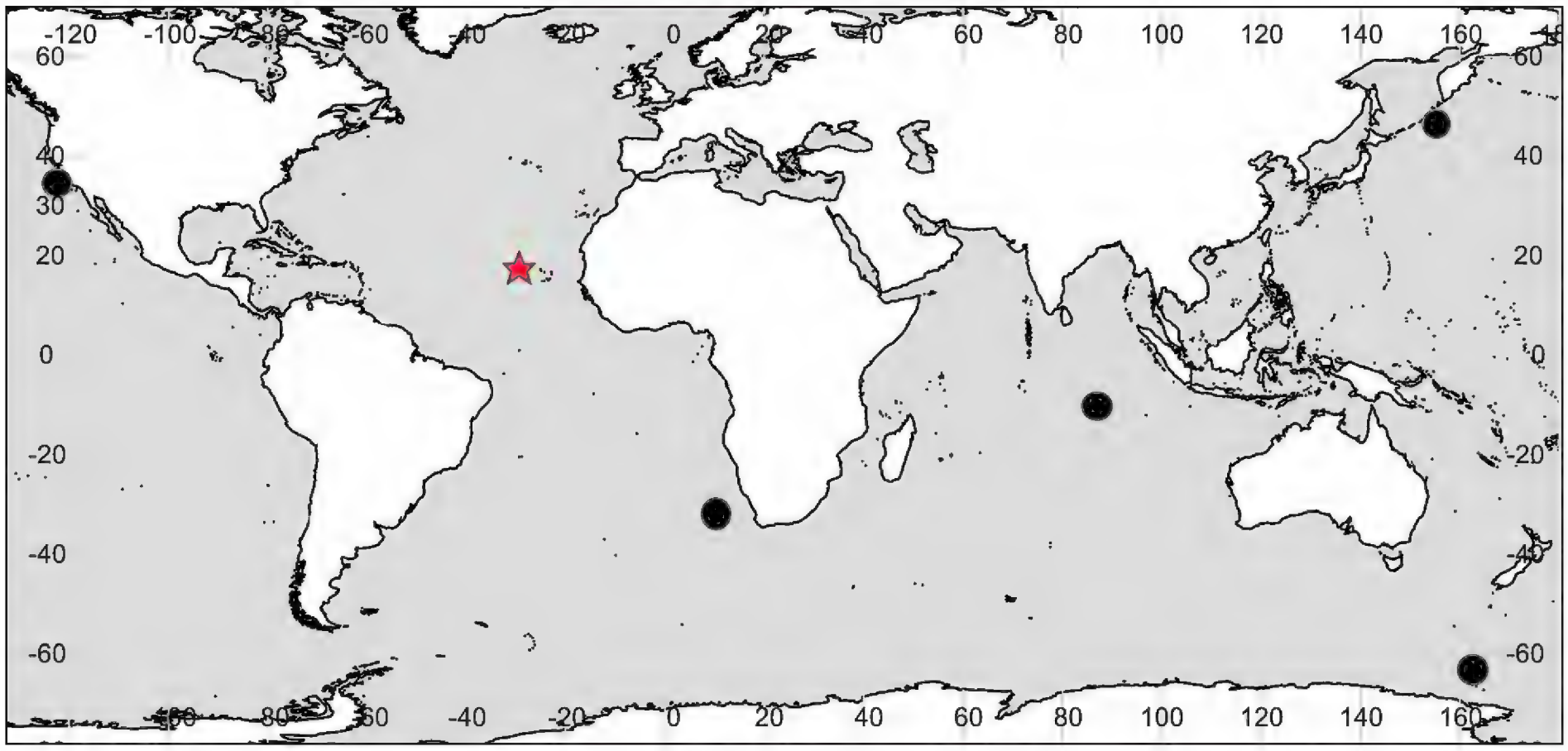

Figure 35. Distribution of *Scopelocheiropsis abyssalis* Schellenberg, 1926. Star indicates type locality.

Scopelocheiropsis abyssalis Schellenberg, 1926

Figures 35, 36

Scopelocheiropsis abyssalis Schellenberg, 1926a: 260, fig. 12. — Schellenberg 1926b: 216, fig. 26b. — J.L. Barnard 1958: 99 (list). — Birstein and Vinogradov 1962: 34, fig. 1. — Birstein and Vinogradov 1964: 162. — Birstein and Vinogradov 1970: 402 (table 1), 417 (table 3). — Lowry and Bullock 1976: 105. — Vader 1983: 140 (table 1). — Barnard and Karaman 1991: 527. — Palerud and Vader 1991: 42. — De Broyer and Jażdżewski 1993: 74. — Thurston 2001: table 2. — Hendrycks and Conlan 2003: 2327, fig. 10. — De Broyer et al. 2007: 159.

Type material. Syntypes, 2 females, 5 mm, ZMB 20319.

Type locality. North Atlantic (17°28'N, 29°42'W), 3000 m.

Depth range. 0–4000 m (Schellenberg 1926a, Hendrycks and Conlan 2003).

Distribution. *Atlantic Ocean*: approximately 650 kms west-north-west of the Cape Verde Islands (Schellenberg 1926a); west of South Africa (Schellenberg 1926b).

Indian Ocean: approximately 1100 kms west-north-west of Cocos (Keeling) Islands (Birstein and Vinogradov 1964).

Pacific Ocean: Kurile-Kamchatka region (Birstein and Vinogradov 1970); United States, west of California (Hendrycks and Conlan 2003).

Southern Ocean: Antarctica, approximately 600 kms north of the Oates Coast (Birstein and Vinogradov 1962).

Discussion. *Scopelocheiropsis abyssalis* was originally described and illustrated as lacking a mandibular molar. Hendrycks and Conlan (2003) described new material and indicated the presence of a small molar. We have re-examined one of the syntypes of this species and can confirm the presence of a molar on the type material (see Figure 36).

Scopelocheiropsis armata (Ledoyer, 1986)

Figure 37

?*Bathycallisoma armata* Ledoyer, 1986: 733, fig. 282.
?*Scopelocheirus armata*. — Barnard and Karaman 1991: 528.

Type material. Holotype, ?male, 4 mm, MNHN-Am4099 .

Type locality. South-east of les Îles Glorieuses (11°31'S, 47°24.1'E), 335–390 m depth.

Depth range. 335–390 m (Ledoyer 1986).

Distribution. *Madagascar*: South-east of les Îles Glorieuses (Ledoyer 1986).

Discussion. Ledoyer (1986) originally described this species, tentatively placing it in the genus *Bathycallisoma* based on the relative length of the gnathopod 1 carpus, which is shorter than the propodus. We do not consider this to be a sound diagnostic character and instead refer to the distally broadened lacinia mobilis (slender robust seta in *Bathycallisoma*).

Scopelocheiropsis sublitoralis G. Vinogradov, 2004

Figure 38

Scopelocheiropsis sublitoralis G. Vinogradov, 2004: 55, fig. 3.

Type material. Holotype, male, 4.5 mm, SAM A40881. Paratype, juvenile, 2.5 mm, P.P. Shirshov Institute of Oceanology of the Russian Academy of Sciences.

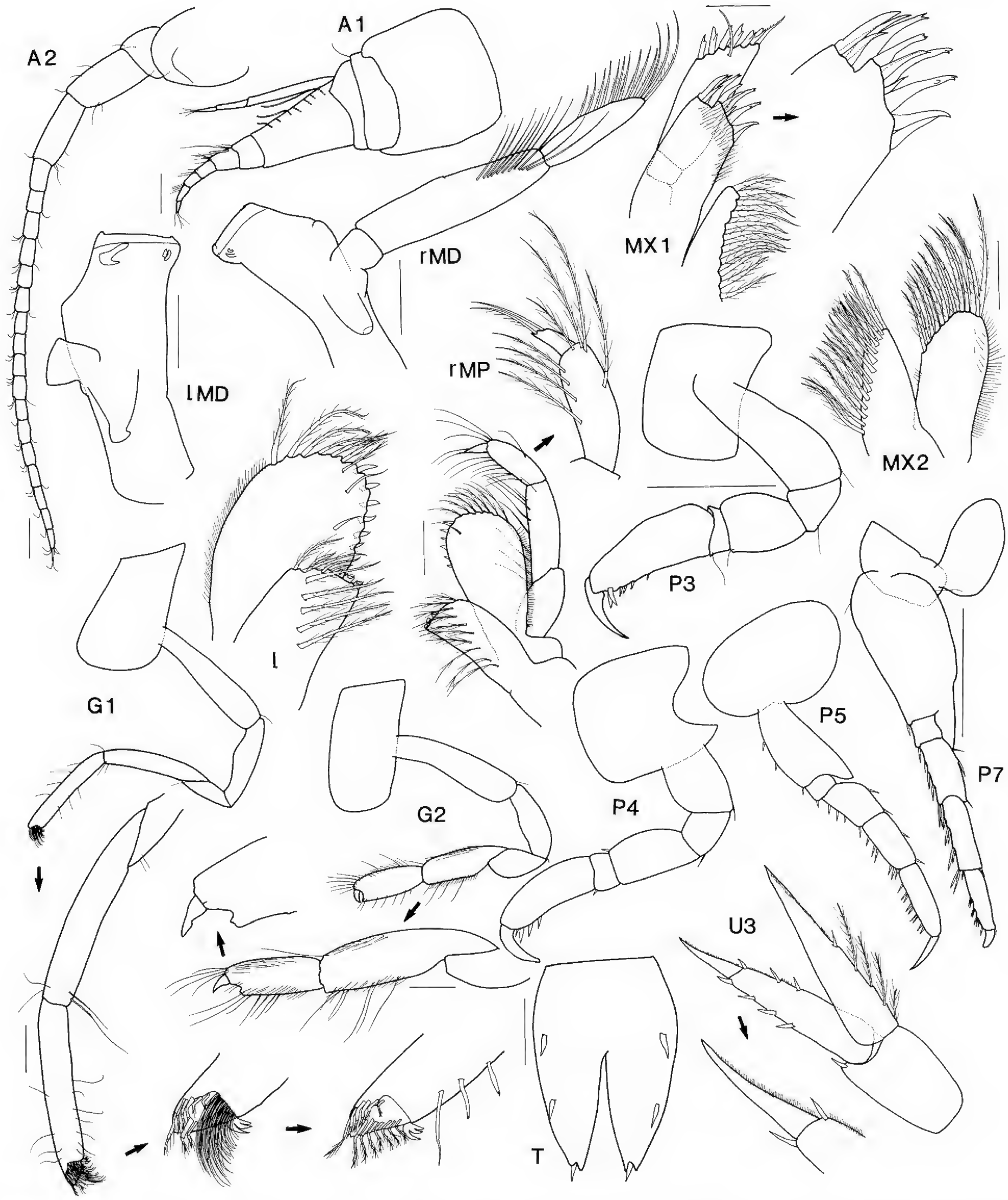

Figure 36. *Scopelocheiropsis abyssalis* Schellenberg, 1926. Syntype female, 5 mm, ZMB 20319, mid Atlantic Ocean. Whole G1, G2, P4, P5 after Schellenberg 1926. Scales for P3, P7 represent 0.5 mm, remainder represent 0.1 mm.

Type locality. Indian Ocean, Madagascar, Mozambique Channel (22°13'S, 43°07'E), 258–300 m (2 meters above the bottom).

Depth range. 258–300 m (Vinogradov 2004).

Distribution. Mozambique Channel, Indian Ocean (Vinogradov 2004).

Ecology. Living over mud with sand.

Discussion. *Scopelocheiropsis sublitoralis* is morphologically close to *S. armata*, both of which have a known distribution that is so far confined to Madagascar. Vinogradov (2004) does not justify his generic placement of the species, but presumably it was due to the absence of a molar, which *S. abyssalis*, the type of the genus, is now

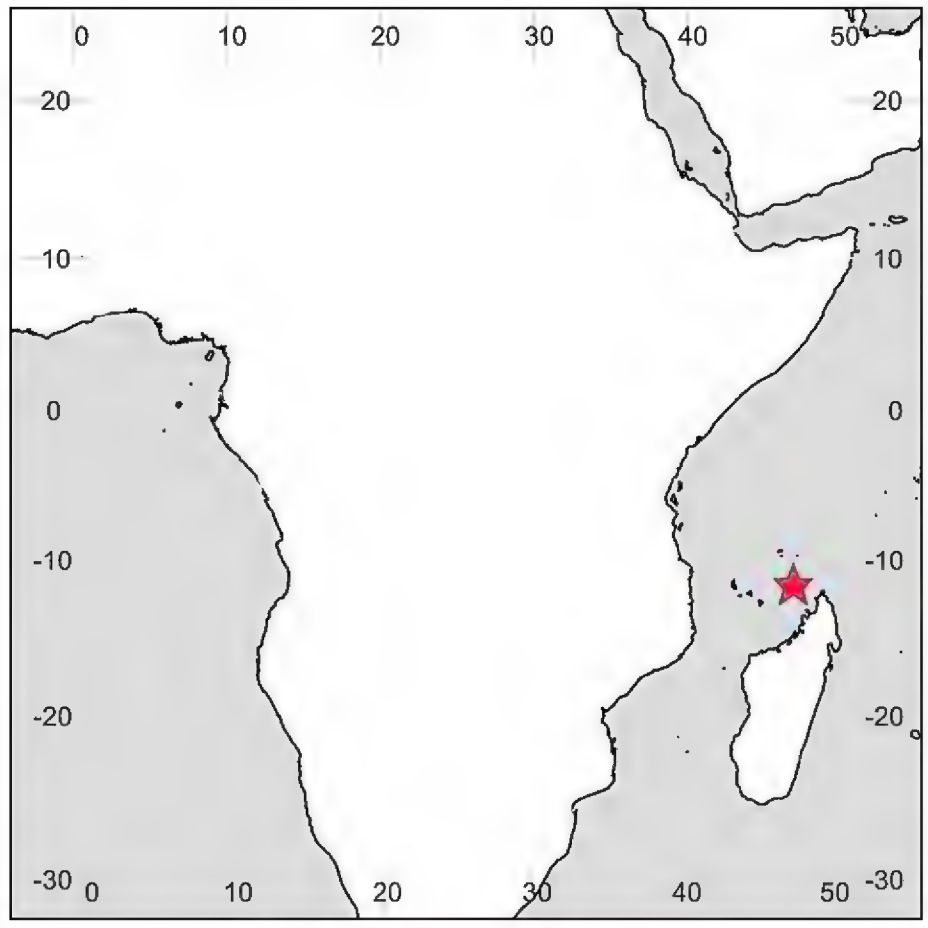

Figure 37. Distribution of *Scopelocheiropsis armata* (Ledoyer, 1986).

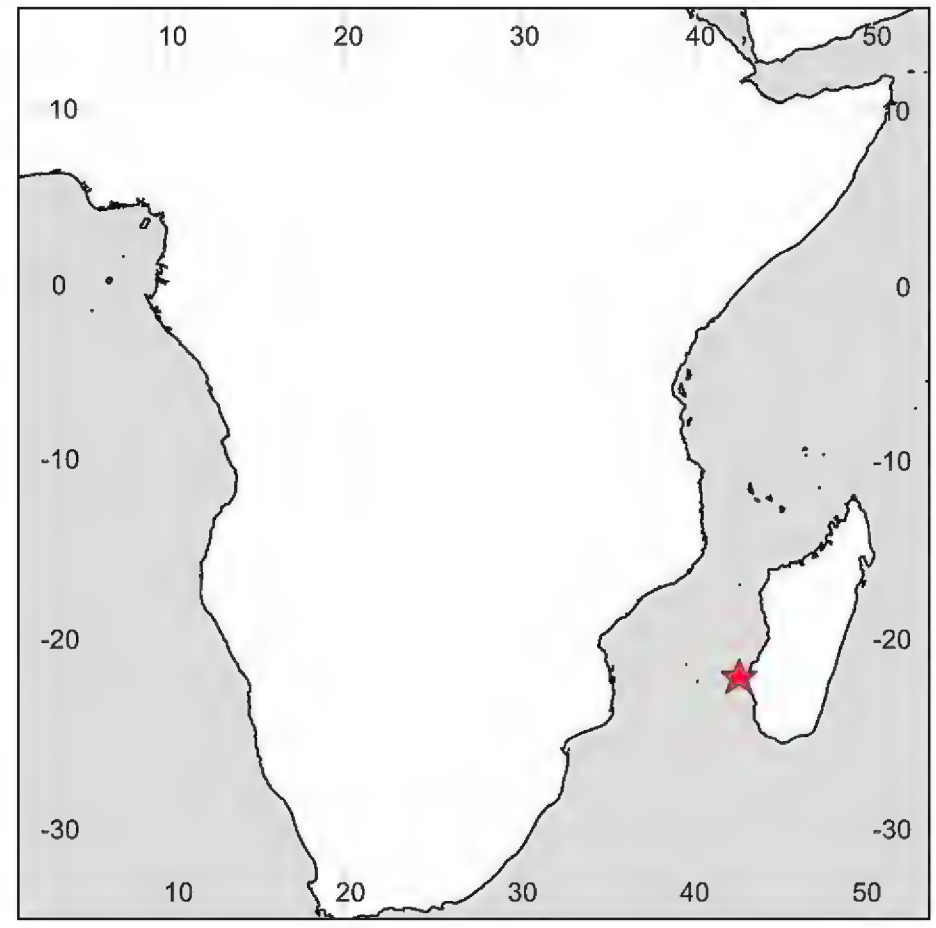

Figure 38. Distribution of *Scopelocheiropsis sublitoralis* Vinogradov, 2004.

known to have. Nonetheless, *S. sublitoralis* exhibits characters which fit within the diagnosis of the genus.

Scopelocheiropsis sublittoralis can be distinguished from *S. armata* by the following characters: molar absent in *S. sublitoralis*, present in *S. armata*; mandible palp broadened medially in *S. sublitoralis*, margins subparallel in *S. armata*; pereopod 5 basis almost linear in *S. sublitoralis*, broadly expanded posteriorly in *S. armata*; uropod 3 rami subequal in length in *S. sublitoralis*, inner ramus distinctly shorter than outer in *S. armata*; telson length 1.5 × width in *S. sublitoralis*, 1.2 × width in *S. armata*.

Scopelocheiropsis sublittoralis can also easily be distinguished from *S. abyssalis* by the absence of a molar (present in *S. sublitoralis*); the shape of gnathopod 1, which is much more elongate and slender in *S. abyssalis*; and the shape of pereopod 7 basis, which has a long, thin posterodistal lobe in *S. sublitoralis* compared to the posteroventrally excavate corner of the pereopod 7 basis in *S. abyssalis*.

***Tayabasa* gen. n.**

http://zoobank.org/FC8F22E5-8283-4BF4-AF4D-F0C9C7F9CA01

Eucallisoma. — Lowry and Stoddart 1993: 67 (in part, part *Eucallisoma*).

Type species. *Eucallisoma barnardi* Lowry & Stoddart, 1993, by original designation.

Included species. *Tayabasa* includes one species: *T. barnardi* (Lowry & Stoddart, 1993).

Diagnostic description. *Mandible lacinia mobilis a cuspidate peg*. *Maxilla 1* inner plate with pappose setae lining inner margin; *palp 2-articulate*. Maxilla 2 inner plate broader than outer, inner and outer plates subequal in length. *Maxilliped palp article 4 vestigial*. Gnathopod 1 coxa large, almost as long as coxa 2, margins slightly tapering distally; basis swollen, with glandular material; dactylus reduced, simple. Pereopod 3 carpus short to long, longer than wide. *Pereopod 4 with well-developed, subacute posteroventral lobe*.

Etymology. The name *Tayabasa* refers to Tayabas Bay, located on the eastern side of Verde Island Passage in the Philippines, close to the type locality of the type species. Gender feminine.

Discussion. *Tayabasa* belongs to a closely related and highly derived complex of genera also comprised of *Anisocallisoma*, *Austrocallisoma* and *Eucallisoma*. See discussion under *Austrocallisoma* for further remarks.

Tayabasa can be separated from *Anisocallisoma* by the 2-articulate maxilla 1 palp and inner plate with setae lining the inner margin (palp 1-articulate and inner plate with apical setae only in *Anisocallisoma*). It differs from *Austrocallisoma* in peg-like lacinia mobilis, the 2-articulate maxilla 1 palp, and the well-developed gnathopod 1 coxa (lacinia mobilis a stemmed, distally expanded blade, maxilla 1 palp 1-articulate, and gnathopod 1 coxa reduced in *Austrocallisoma*). Finally, it can be distinguished from *Eucallisoma* in the peg-like lacinia mobilis, the vestigial maxilliped palp article 4, and the subacute posteroventral lobe of the pereopod 4 coxa (lacinia mobilis a stemmed, distally expanded blade, maxilliped palp article 4 well developed, and pereopod 4 coxa with a subquadrate posteroventral lobe in *Eucallisoma*).

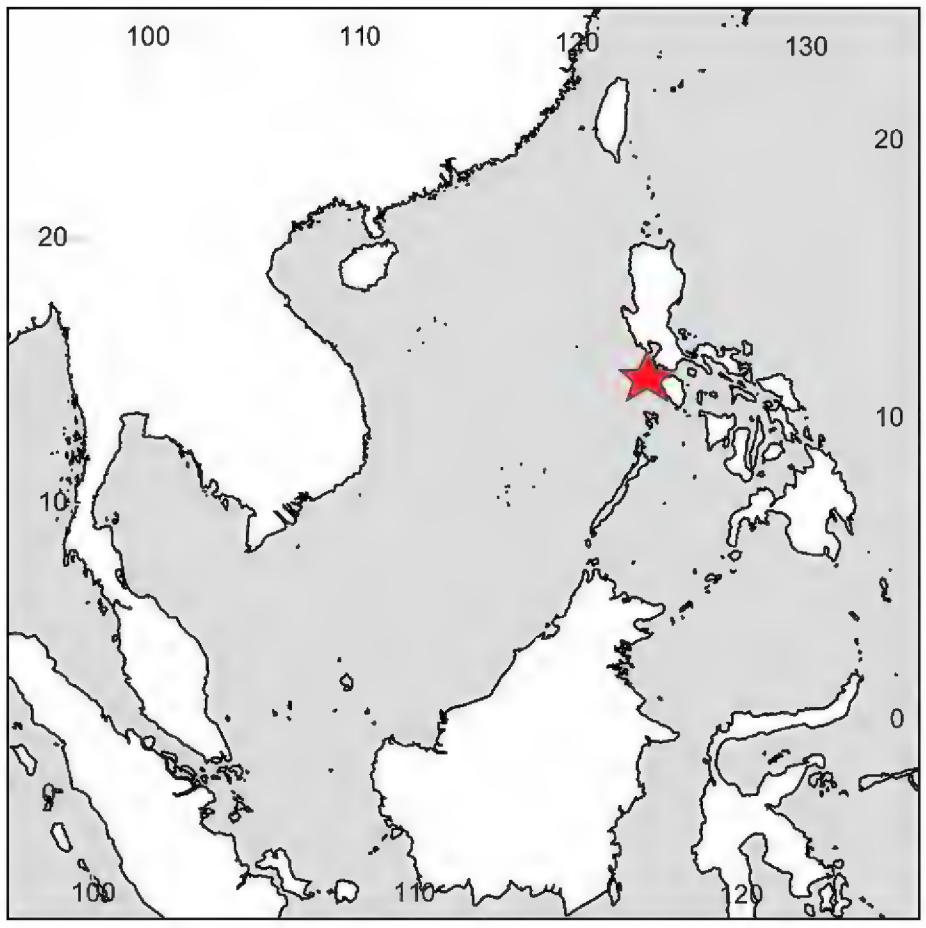

Figure 39. Distribution of *Tayabasa barnardi* (Lowry & Stoddart, 1993).

Tayabasa barnardi (Lowry & Stoddart, 1993)

Figure 39

Eucallisoma barnardi Lowry & Stoddart, 1993: 68, figs 8–10. — Lowry 2000: 323 (list).

Type material. Holotype, female, 40 mm, MNHN-Am4449.

Type locality. Eastern entrance to Verde Island Passage, Philippines (13°36.7–38.11'N, 120°33.7–32.3'E), 810–820 m depth.

Depth range. 810–820 m.

Distribution. *Philippines*: Verde Island Passage.

Discussion. *Eucallisoma barnardi* is here transferred to its own genus, *Tayabasa* gen. n., on the basis of the cuspidate peg form of the lacinia mobilis, the vestigial maxilliped palp article 4, and the subacute posteroventral lobe on the pereopod 4 coxa.

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Supplementary material 1

Collection data for new species of Scopelocheiridae described

Authors: Niamh M. Kilgallen, James K. Lowry

Data type: species data

Explanation note: Collection data and registration information for new taxa described in this paper.

Supplementary material 2

Distribution data for Scopelocheiridae species

Authors: Niamh M. Kilgallen, James K. Lowry

Data type: distribution data

Explanation note: Collection data of scopelocheirid specimens as recorded in the literature. This information is taken from the literature referenced within and includes as much information as available, including locality, depth, habitat, sampling method, museum registration details and the name as originally recorded.